The Cavendish Lecture

ON

THE CENTENARY OF THE DISCOVERY OF VACCINATION BY EDWARD JENNER.

Delivered before the West London Medico-Chirurgical Society on June 17th, 1896,

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MR. PRESIDENT AND GENTLEMEN,—One hundred years ago a medical practitioner residing in a remote village in Gloucestershire, and who might have been described as obscure, wrote to Mr. E. Gardner of Frampton, an old and intimate friend, the following letter, dated from Berkeley, July 19th, 1796.

"DEAR GARDNER,—As I promised to let you know how I proceeded in my inquiry into the nature of that singular disease the cow-pox, and being fully satisfied how much you feel interested in its success, you will be gratified in hearing that I have at length accomplished what I have been so long waiting for—the passing of the vaccine virus from one human being to another by the ordinary mode of inoculation. A boy of the name of Phipps (aged eight) was inoculated (on May 14th) in the arm from a pustule on the hand of a young woman who was infected by her master's cows. Having never seen the disease but in its casual way before, that is, when communicated from the cow to the hand of the milker, I was astonished at the close resemblance of the pustules in some of their stages to the variolous pustules. But now listen to the most delightful part of my story: The boy has since been inoculated for the small-pox (July 1st) which, as I ventured to predict, produced no effect. I shall now pursue my experiments with redoubled ardour.

"Believe me, yours very sincerely,

"EDWARD JENNER."

The letter I have just read[1] is now in the possession of the Royal College of Surgeons of England with a large number of other valuable Hunterian, Jennerian, and Baillie records, which are to be treasured by the College for all time as a distinct collection under the name of the Hunter-Baillie collection, the whole having recently been kindly presented to the College through me, according to the wish of the late Mr. William Hunter Baillie and his surviving sister Miss Helen Baillie. The pleasure with which Jenner indited this letter to his trusted friend, and reported the complete success of his crucial with his control experiment on vaccination, can be understood in a measure by all of us, and we can likewise appreciate how by his success in his well-thought-out experiment he was encouraged to go about his work with redoubled ardour. At any rate, the interest the perusal of this letter has raised in my mind and the possession of the letter with other original papers connected with Jenner and his work have induced me in giving this lecture, which bears the honoured name of Cavendish, the great chemist of the air, to bring before your notice the doings of another great Englishman, who has both directly, by the discovery of vaccination, and indirectly, by introducing a new method of investigation, been of incalculable advantage to his fellow creatures all over the world. And as this year is the centenary of Jenner's discovery I have been encouraged to bring his name and good work before you.

Edward Jenner was born at Berkeley, Gloucestershire, on May 17th, 1749, and died on Jan. 26th, 1823. He studied medicine and resided for two years as a house pupil with John Hunter when he was twenty-one and Hunter was forty-two years of age, and always subsequently referred to Hunter as the "dear man." A close friendship between these men succeeded this period for at least a quarter of a century, as proved by a correspondence which continued nearly up to Hunter's death. Indeed, Hunter's opinion of young Jenner must have been very high, for in 1775 when Hunter started his school of anatomy he asked Jenner to join him as a partner; and that the two men were intimate is proved by a letter from Jenner to Dr. Heberden that in 1778 Jenner had recognised the existence of the heart trouble from which Hunter died on Oct. 16th, 1793. In 1771, as soon as Jenner left Hunter's house, he commenced his systematic inquiries into the subject of cow-pox, and particularly into the truth of the floating opinions and scattered observations which had been made as to its influence; for in some of the dairy counties—particularly those of Gloucester and Buckingham—the fact had long been recognised that the dairymaids who had contracted cow-pox were far less susceptible to small-pox than others who were differently placed, and it is more than probable that Jenner had told this to John Hunter and had been stimulated by his precept and example to follow out this clue to its legitimate conclusions. Jenner was probably unaware of an isolated example of vaccination by B. Jesty in 1774, and of another in Holstein in 1791 by P. Plett. At any rate John Hunter never took the subject up, and it was left to Edward Jenner to realise the full value of these observations, to confirm them by way of experiment, and to apply them by a happy thought or stroke of genius to the lasting benefit of his fellow creatures. That Jenner understood the full meaning of the investigation he was following out, and the measure of good his work was likely to achieve if brought to a successful issue, is perfectly clear from the following conversation he had with his friend Gardner sixteen years before he made the crucial experiment recorded in the letter with the reading of which I commenced this lecture, and nine years after he had commenced his study of the subject. In 1780 Jenner, when riding on the road between Gloucester and Newport with his intimate friend Edward Gardner, went over the natural history of cow-pox. He stated his opinion as to the origin of this affection from the heel of the horse—an opinion which was never accepted in Jenner's time, but which has since been established, beyond room for doubt, by H. Bouley of Alfort, he having proved in 1862 the fact that the grease is a specific disease of the horse analogous to cow-pox and interchangeable with it. He likewise specified the different sorts of disease which attacked the milkers when they handled infected cows; dwelt upon that variety which afforded protection from small-pox; and with deep and anxious emotion mentioned his hope of being able to propagate that variety from one human being to another till he had disseminated the practice all over the globe, to the total extinction of small-pox. "Gardner," he said in conclusion and with great emotion, "I have intrusted a most important matter to you, which I firmly believe will prove of essential benefit to the human race. I should not wish what I have stated to be brought into conversation, for should anything untoward turn up in my experiments I should be made by my medical brethren the subject of ridicule." In 1780 the conversation I have just quoted took place; in 1796, sixteen years later, the success of his crucial experiment was reported to the same friend; and between 1796 and 1798, when he published his first treatise on cow-pox, he repeated the experiment over and over again. Indeed, he inoculated at least 100 children with cow-pox, and subsequently at different intervals with small-pox without effect before he ventured to communicate his discovery to the world. Jenner did not publish his discovery till 1798—that is, two years after the success of the crucial experiment he had performed on the boy "Phipps," which had proved to him the truth of his theory, and which helped him, as he expressed it, to pursue his experiments with redoubled ardour. He was not so eager to reap the fruit of his labour as to bring it to market before it was ripe, but he cautiously went over the ground again and again, by experiment and counter-experiment, until there was no room for doubt; so that when, in June, 1798, he gave the ripe conclusions of his prolonged investigation under the heading of an "Enquiry into the causes and effects of the variolæ vaccinæ" to an astonished and admiring world, its form and substance were so clear, simple, and convincing that his work was at once accepted and the practice based upon it speedily diffused over all countries. Indeed, France, Russia, Germany, Austria, Spain, Switzerland, Denmark, Norway, America, and India all vied with one another in their efforts to spread the means of contending with such a loathsome and fatal malady as small-pox had for so many centuries proved to be.

France forgot its jealousy and accepted the boon from England's son with candour and alacrity. She founded

[1] A facsimile of this letter is published on page 1773.

institutions and societies for its extension under Government sanction, and the central government committee reported so early as 1802 that "there has not been one example to prove that amongst ten thousand individuals inoculated with the cow-pox a single one has been infected with the small-pox, though being in the midst of the contagion." In 1803 they were still convinced of the reality of the advantages ascribed to it, and returned what they described "as a just tribute of acknowledgment to Dr. Jenner, being fully persuaded that he will hereafter be remembered among those who have reflected the greatest honour on science and rendered the most important service to mankind." Dr. Valentine of Paris worked nobly to introduce and extend the practice.

In 1803 the Government of Denmark so effectually enforced the practice of vaccination that small-pox was rapidly extirpated from the country, and soon afterwards it prohibited variolous inoculation altogether. In 1821 not a single case of small-pox had occurred in Denmark for a period of eleven years. In 1826, however, a traveller from Hamburg re-introduced the disease.

In Sweden vaccination was taken up very warmly, and as a consequence in 1802 variolous inoculation had been given up and in 1803 vaccination was established by law. On Feb. 10th, 1814, the Government of Sweden reported that small-pox had been perfectly extirpated in that country. In 1823 its mortality, at any rate, had dropped from 15,000 a year to 37. Dr. Edwardes has within the last month recorded the facts, as demonstrated by official records, that whereas before vaccination 1 death occurred every year from variola in every 488 of the population, the average annual mortality of the disease for the last seventy-seven years has been 1 in every 6451, or $\frac{1}{13}$th part of the former average.

In 1801 vaccination was introduced into Russia, and the story of its introduction, which is so indicative of faith in its value and energy in its use, is worthy of repetition. The Court was at Moscow on account of the coronation of the Emperor, and the child who was first inoculated was patronised by that exalted and truly philanthropic personage, the Empress Dowager, who named her "Vaccinoff," sent her in one of her own coaches to St. Petersburg to be placed in the Foundling Hospital, and settled on her a pension for life. Her Majesty likewise transmitted on Aug. 10th, 1802, a valuable diamond ring to Dr. Jenner accompanied by a flattering letter written by her own hand. This act was followed by the adoption of vaccination throughout the Russian dominions. The nobles themselves inoculated the peasants with their own hands. Indeed, in Russia vaccination proved so successful that it was termed in the language of the country the "pock of surety," and no wonder, when we were told that variola before that period was the cause of death in Russia of every seventh child and sometimes was said to have destroyed two millions of people in a year. Woodville and Guthrie, two great authorities of that day, believed it not improbable that the great population of these regions, which formerly enabled them to pour such immense numbers over Europe, had been greatly lessened by this disorder.

In Germany vaccination was introduced through Hanover, and the King of Prussia was the first crowned head who had the vaccine inoculation performed on his own children. He established a vaccine institution in the capital of each part of his dominions and appointed a Berlin physician to the institution in that city with a suitable salary.

In Austria vaccination was introduced into Vienna in 1801 and taken up very warmly by Dr. de Carro of that town, who, when he vaccinated a child of a medical friend four and a half hours after its birth, expressed the wish that vaccination and christening should be one ceremony as by such a practice small-pox would be soon eradicated. It was said that this excellent idea was supported by the celebrated Dr. Darwin, who, from opposing the practice at its commencement, became before the year 1802 one of its warmest supporters.

Its effects in diminishing the mortality of small-pox in Vienna was very evident by comparing the number of deaths since its introduction in 1801 down to 1804 with the average of the ten years before its introduction:—From 1791 to 1800 inclusive the deaths were 835 a year; in 1801 (the year of the introduction of cow-pox into Vienna) the deaths were 164; in 1802, they were 61; in 1803, 27; and in 1804, 2.

In Lombardy the practice was so popular and so much enthusiasm as to its adoption was felt that in 1805 Dr. de Carro of Vienna reported that Dr. Sacco travelled from one town or village to another and the children were assembled in order to be vaccinated by the ringing of the church bell.

Spain took up the practice of vaccination very warmly, and both at home and abroad spared no efforts to confer its benefits upon all its children—indeed, one of the prettiest incidents connected with the early history of vaccination was brought about by the Spanish Government and is worthy of being recalled to mind. When evidence had been brought before the Spanish Government that both in India, Ceylon, and other Asiatic countries the vaccine inoculation had completely succeeded, "the Spanish monarch resolved to fit out an expedition for the express purpose of carrying to all the possessions of the Crown of Spain beyond the seas and to those of several other nations the inestimable gift of vaccine inoculation. An expedition was prepared which set sail from Corunna on Nov. 30th, 1803, under the direction of Dr. Francis X. Balmis, Surgeon Extraordinary to the King. There were on board twenty-two children who had never undergone small-pox selected for the preservation of the vaccine fluid by transmitting it successfully from one to another during the voyage. After an absence of nearly three years the able conductor of this philanthropic expedition returned to Madrid having circumnavigated the globe and having more than realised the most sanguine expectations that were entertained at his departure."

In America vaccination made early and rapid way, for Dr. Waterhouse as soon as he received a copy of Jenner's book, which he did within six months of its publication, was so struck with the importance of the subject and the incalculable benefit which might accrue to his country from its adoption, that he immediately communicated to the public a sketch of the discovery, and this effort on his part was most favourably received by Mr. John Adams, the then President, who wrote on Sept. 10th, 1800, "to disarm the small-pox of its contagion is an enterprise worthy of a Hercules in medicine." Mr. Jefferson, the succeeding President, continued to support the same, so that in 1802—four years after Jenner's book was published—vaccination had become widely extended through the United States and likewise amongst the Indians, who received it as a blessing from Heaven.

In 1806 it was reported that in Mexico and Peru, where small-pox every year had played sad havoc, by means of vaccination, variola had lost much of its malignity, so that at that date—eight years after its introduction—the number of children who fell victims to it had been reduced in the proportion of nine to one.

In China, even, much success was soon achieved, and at Canton the first British book that had ever issued from a Chinese press was published upon the subject in order to promote the knowledge of the discovery.

In India the practice was rapidly adopted and extensively practised. In 1802 it was recorded that no less than 800,000 natives had been vaccinated. The Brahmins at first objected to it as it proceeded from the sacred cow, but when the chief of the Mahratta empire had one of his own children vaccinated many others followed suit, and so at last the cow-pox inoculation became so popular as to be named "the dew of heaven."

In England, and particularly in London, vaccination, in common with all other great movements, was sadly opposed—prejudice and the pleasure of opposition had its influence, and inefficient and careless methods helped both. A striking instance of incredulity was exhibited on March 28th, 1808, at a place of public discussion in London called the British Forum, when the following subject was brought forward for discussion: "Which has proved a more striking instance of the public credulity, the gaslight of Mr. Winsor or the cow-pox inoculation?" The result of the discussion was that both gaslight and cow-pox were handed over to scorn and ignominy. That incredulity as to the value of vaccination itself was rapidly displayed after its introduction was not surprising, as well as incredulity as to the relative value of cow-pox and small-pox inoculation, which was then in vogue; indeed, such feelings were but natural. Hostility and opposition to the practice of vaccination as well as to the theory upon which it was based were also to be anticipated, for the curious tribe of anti's, including "anti-vaccinists," as they were then called, has always been present in the world and still exists; and although those unreasonable people may do some harm amongst the thoughtless and ill-informed, they help to stimulate healthy exertion and at the same time give the public an opportunity of studying human nature in one of its oddest forms. Nevertheless, it is clear that hostility to the

FACSIMILE OF LETTER FROM DR. EDWARD JENNER, THE DISCOVERER OF VACCINATION.
(*Reproduced by permission from the original in the possession of the Royal College of Surgeons of England.*)

Dear Gardner

As I promised to let you know how I proceeded in my Enquiry into the nature of that singular disease, the Cow pox & fully satisfies how much you feel interested in its success, you will be gratified in hearing that I have at length accomplish'd that I have been so long waiting for the passing of the vaccine Virus from one human being to another by the ordinary mode of Inoculation

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Believe me Yours
very sincerely
Edw^d Jenner

Berkeley July
19 1796

practice of vaccination was very serious, for the writer of an able article in the *Edinburgh Review* for 1806 upon the subject (vol. iv., p. 33) wrote that "in the whole course of our censorial labours we have never had occasion to contemplate a scene so disgusting and humiliating as is presented by the greater part of this controversy; nor do we believe that the virulence of political animosity amongst the lowest scribblers ever gave rise to so much coarseness, illiberality, and absurdity as is here exhibited by gentlemen of sense and education discussing a point of professional science with a view to the good of mankind." That carelessness in the operation of vaccination and in the transference of the vaccine virus had in Jenner's time, as in our own, some influence for harm in an occasional instance is also true; but such a fact is no more an argument against vaccination than any other act, for carelessness, of all human virtues, must be calculated upon as a human certainty. In Jenner's time carelessness must, however, have had a more pernicious influence, for the vaccine inoculation was not confined to members of the medical profession. In 1800 it was openly practised by some of the clergy. In a pamphlet before me, dated 1806, I read that a Mr. J. T. Read, who was curate of Leckhampstead and Akeley, near Buckingham, in March, 1800, began to vaccinate both the labourers of those villages and vast bodies of men who were working at the Grand Junction Canal, which was then in progress, and that in the course of six years he had inoculated upwards of 4700 persons and that not one of his cases had subsequently had small-pox, although many had run extreme risks. This custom of amateur vaccination was, indeed, so general that the National Vaccine Establishment, in its report for 1815, drew attention to it in the following terms, which, please note, are commendatory and not, as they would have been in this age of Medical Acts, the reverse: "The board cannot omit to direct your Lordships' attention to the *meritorious conduct* and zealous exertions of private individuals, not of the medical profession, who have not only vaccinated many hundreds every year, but who have studiously maintained a supply of lymph in their districts for the perpetual renewal of vaccination. It has particularly noticed the ardent zeal of Mr. Ellis of Rhos farm, who has vaccinated several thousands in North Wales without a single failure, and also of the late Rev. Mr. Holt and the Rev. Mr. Finch, two of the earliest friends to the practice and who met with undeviating success, a success which puts to shame the negligent practice of some belonging to the medical profession." In 1818 the National Vaccine Establishments were so pleased with public non-professional assistance that they appointed honorary vaccinators to help in their work, and most of them were private gentlemen, ardent patrons of vaccination. This act on their part was somewhat curious, for at this time the same establishment began to recognise the necessity of acquiring knowledge as to the best modes of practice, for reports came in of failures, or supposed failures, which were of course exaggerated in the eyes of the public and helped the quacks and sceptics to encourage variolous inoculation, which at this period of the world's history seemed to be very much in their hands, with those of farriers, publicans, nurses, and low, cunning people of both sexes and of various descriptions.

I propose now to say a few words about the success of vaccination, for its very success at the present time is employed as an argument against its use. Indeed, small-pox since the introduction of vaccination has so steadily and rapidly diminished that the present generation of people until lately have little knowledge of its existence, and consequently hardly understand the necessity of seeking a preventive for an affection which seems so remote; and I question whether the present generation of medical men are fully alive to its former dangers. The following brief observations may consequently be of interest. It may be accepted as a correct statement that before the vaccine inoculation was introduced in 1798 3000 lives in London and 40,000 in the United Kingdom were *annually* the direct victims of small-pox, and that these numbers multiplied by six—or 18,000 in London and 240,000 in the United Kingdom—indicated the number of people who had been affected with the disease every year. Out of every 1000 persons who died from any cause, 100 died from small-pox and 600 had it; for 1 out of every 6 infected with small-pox died from it. This mortality was calculated when the practice of variolous inoculation had been very general, whereas before inoculation was introduced 1 out of every 3 persons attacked by natural small-pox died. It may also be accepted as true that of those who survived the ravages of the disease a number—at least twice as large as that given to indicate its fatal average—were afflicted with blindness or hideous deformity which rendered life miserable. Indeed, Mr. Moore, the author of an excellent pamphlet (A Reply to the Anti-vaccinators of 1806) referred to the well-known institution in the South of London for instructing the indigent blind, and reported that no less than three-fourths of its occupants had lost their sight from the small-pox. These figures taken together suggest an amount of preventable human misery which is appalling, as it affected every year 130,000 of our own country-men and -women. At the present time the mortality of small-pox appears but trifling, for in 1894 the Registrar-General reports that in a population of over 30 million persons in which the death-rate was 16·6 per 1000, the deaths from small-pox were only 820 or 27 per million people, or one death from small-pox in every 37,000 persons. And in 1895 in the metropolis out of a population of 4,400,000 there were 55 deaths from small-pox, or one in every 80,000; and out of 1546 deaths one only was from variola, whereas 100 years ago, instead of one death from variola out of the 1546 deaths there would have been 154 deaths. In the Continental war of 1870, in the well-vaccinated German troops there were but 300 deaths from small-pox; whereas in the imperfectly-vaccinated French army there were 23,400 deaths from the same disease. Jenner always considered small-pox and cow-pox as modifications of the same distemper, and that in employing vaccine lymph, we only made use of means to impregnate the constitution with the disease in its mildest, instead of propagating it in its virulent and contagious, form, as is done when small-pox is inoculated.

"It is," he wrote later, "the small-pox in a purer form than that which has been current among us for twelve centuries past. The security given to the constitution by vaccine inoculation is exactly equal to that given by the variolous. To expect more from it would be wrong."

In 1811 Jenner wrote: "At the commencement of vaccination, I deemed variolous inoculation after vaccination the necessary test of security. I now—that is, thirteen years later—feel confident that we have one of equal efficacy, and infinitely less hazardous, in the re-insertion of the vaccine lymph." Jenner clearly by this observation recognised the value of re-vaccination. He also advocated the use of lymph from the calf when it can be procured.

The question of variolous inoculation claims briefly our attention, for it was carried out throughout the world for many years with variable success.

The practice of inoculating the small-pox as we now vaccinate for cow-pox was recognised in Constantinople and Venice in 1714–15, and although its introduction into England was said to have been at about that date, its true adoption was unquestionably due to the influence of Lady Mary Wortley Montagu, the wife of the British ambassador at Constantinople in 1717, who had a child of hers so inoculated at Constantinople by Mr. Maitland, surgeon to the embassy of that town, and in 1722 a second who was in England, this case being the first known subject of the new practice in civilised Europe. The practice, however, made but slow progress, and in 1740 it had almost fallen into disuse. But about this date good accounts of its success had been reported from South America and the West Indies, and under this influence the practice was revived.

In 1754 variolous inoculation was described as a noble and blessed discovery, and the College of Physicians declared their fullest approbation of the practice and thus favoured its adoption. They failed, however, to support as they ought to have done the recommendation to keep the infected apart from the non-infected members of the population. As a consequence of this support from high quarters, variolous inoculation became prevalent in 1760. In 1768, or eight years later, what was known as the Suttonian method of inoculation also helped to spread the practice, aided by the encouragement given to it by the Empress Catherine of Russia who invited Dr. (afterwards Baron) Dimsdale of this country over to St. Petersburg to inoculate her and her son Paul. Nevertheless, inoculation of small-pox was but a mixed blessing, for experience proved that instead of mitigating it actually extended the evil, for although the proportion of those who died by it out of a certain number infected (1 in 200) was less than before its adoption, when it was 33 in every 100, yet the actual number carried off by it was greater. The cause of this was obvious: while the small-pox

was more fatal in appearance caution was alive, and whenever the disorder appeared it carried such terrors with it that communication was cut off as much as was practicable and every house was shunned as a pest-house where its effects were so visible. A plague that carried off a third of those attacked, it was natural to fly from; but when by the introduction of inoculation and an improved mode of treatment it happened to be fatal in one only in 200 it gradually became disregarded; the horror which before attached to it vanished as the same consequences did not ensue, and the spreading of the infection was no longer considered as so great an evil. Lady Mary Montagu, indeed, in one of her letters remarks: "Every year thousands undergo the operation"; and the French ambassador of the period said, pleasantly, that "they take the small pox in Paris by way of diversion as they take the waters in other countries." Contagion in consequence spread widely around and the world little regarded what would have appeared to them as a paradox, but which, however, may be easily explained. Dr Lettsom, the great physician of the time, explained this to the Committee of the House of Commons, and proved from the yearly bills of mortality that between 1667 and 1722 the average number of deaths occasioned by the small-pox was to the whole number that died as 72 to 1000, whereas in the forty-two years after inoculation was in use—namely, from 1731 to 1772—the proportion of death was no less than 89 to 1000, being an increase of nearly one-fourth, and Dr. (subsequently Sir Gilbert) Blane later showed that in the following thirty years from 1772, before vaccination had had time to tell upon statistics, the mortality had increased to 95 in 1000. Dr. Blane also showed how by the inoculation of small-pox the disease was spread more extensively and became more fatal in the country than in London. For at that time there were certain districts in which small-pox previously to the introduction of inoculation was unknown for twenty, thirty, or forty years, so that great numbers of people had died without ever having had it; but in the latter years of the last century, for the reasons adduced and from the extended communication between the distant parts of the kingdom, an adult who had not had the small-pox was hardly to be found. Although therefore, variolous inoculation may have relieved individuals who availed themselves of its protection, it was a great evil to the people generally by universally spreading the disease. It was, however, productive of some good things, and amongst these stands the foundation of the London Small-pox Hospital, which was founded in 1746 primarily for the purpose of inoculating the poor gratuitously with variolous matter and secondarily with the better object of keeping the patients so inoculated distinct from the general population of the country. At this period this good object could not have been very generally appreciated, since, as I have already pointed out, the Royal College of Physicians, when it declared eight years later, in 1754, its fullest approbation of the practice of variolous inoculation, failed to emphasise the necessity of separating the infected from the uninfected. The Small-pox Hospital, however, continued its good work, and when vaccination was first introduced its officers at once adopted the practice. They did so also with such good effect that in 1803, when vaccination had been in use for only five years, it was stated in the public report of the hospital that "variolous inoculation" might be considered as generally superseded by the substitution of vaccination. Nevertheless, it must be recorded that the prejudice in favour of variolous inoculation was so great that at the hospital itself out-patient variolous inoculation was kept up for five years longer and in-patient inoculation for nearly twenty years—up to 1822. In 1813 the Royal College of Surgeons of England resolved that variolous inoculation was in future to be given up. Pressure was also applied to the Government to pass a law to forbid its practice, but without success. From this time, however, variolous inoculation gradually disappeared out of practice and vaccination became more general and more acceptable, so that in 1825 the medical officers of the Small-pox Hospital were able to report to Government that whilst the death-rate from casual small-pox in the unprotected was 41 per cent., in the protected it was but 8 per cent.

They also made much of the scar of vaccination as a sign of protection, and declared "that a perfect cicatrix should be distinctly defined, perfectly circular, indented, radiated, and not larger than the size of a common wafer. The diameter of the scar is, however, of less importance than its circular and well-defined edge." This description of a typical vaccination scar is so good that I have thought it worthy of repetition. I may say that it bears the stamp of Dr. Gregory.

In 1803 the Royal Jennerian Society for the Extermination of Small-pox was instituted in London in Salisbury-square, Fleet-street. It was founded at a meeting at the Mansion House held on Jan. 19th, 1803, and was patronised by the King and royal dukes.

I have before me the original instructions for vaccine inoculation as laid down by Jenner in 1801, as well as those published by the order of the Medical Council of the Royal Jennerian Society, which had Jenner at its head. I shall not weary you with reading them both, but those laid down by Jenner are well worth studying.

"INSTRUCTIONS FOR VACCINE INOCULATION, 1801.

"Let the vaccine fluid be taken for the purpose of inoculation from a pustule that is making its progress regularly and which possesses the true vaccine character, on any day from the fifth to the eighth, or even a day or two later, provided the efflorescence be not then formed around it. When the efflorescence is formed it is always most prudent to desist from taking any more of the virus from that pustule.

"To obtain the virus, let the edges of the pustule be gently punctured with a lancet in several points. It will gradually ooze out, and should be inserted upon the arm about midway between the shoulder and the elbow, either by means of a very slight scratch not exceeding the eighth part of an inch, or a very small oblique puncture.

"A little red spot will appear on the punctured part on the third day, if the operation succeed, which on the fourth or fifth becomes perceptibly vesicated. It goes on increasing till the tenth day, when it is generally surrounded by a rose-coloured efflorescence, which remains nearly stationary for a day or two. The efflorescence then fades away, and the pustule is gradually converted into a hard, glossy scab, of a dark mahogany colour. These progressive stages of the pustules are commonly completed in sixteen or seventeen days.

"A single pustule is sufficient to secure the constitution from the small-pox; but as we are not always certain the puncture may take effect, it will be prudent to inoculate in both arms or to make two punctures in the same arm, about an inch and a half asunder, except in very early infancy, when there is a great susceptibility of local irritation.

"If the efflorescence surrounding the pustule should be extensive, and occasion much local heat upon the arm, it may be cooled by the repeated application of pieces of folded linen dipped in cold water, or still more expeditiously by a strong solution of the aqua lithargyri acetati in water—an ounce, for example, of the former in five or six of the latter.

"If the scab should at any time be prematurely rubbed off, and not succeeded by another within twenty-four hours, the part may be occasionally touched with the undiluted aqua lithargyri acetati.

"Vaccine virus, taken from a pustule and inserted immediately in its fluid state, is preferable to that which has been previously dried; but as it is not always practicable to obtain it in this state, we are compelled to seek for some mode of preserving it. Various means have been suggested, but from the test of long experience it may be asserted, that preserving it between two plates of glass is the most eligible. Let a piece of common window glass be cut into squares of about an inch each, so that they shall lie smooth when placed upon each other. Let the collected vaccine fluid be confined to a small spot (about the size of a split pea) upon the centre of one of these glasses, which should be suffered to dry in the common heat of the atmosphere, without exposure to the heat of fire or the sun. When dry it should be immediately secured by placing over it the other piece of glass. Nothing more is necessary for its preservation than wrapping it in clean writing paper.

"The virus, thus preserved, when wanted for the purpose of inoculation, may easily be restored to its fluid state by dissolving it in a small portion of cold water, taken up on the point of a lancet. It may then be used in the same manner as when just taken from a pustule.

"The vaccine fluid is liable, from causes apparently trifling, to undergo a decomposition. In this state it sometimes produces what has been denominated the spurious pustule—that is, a pustule or an appearance on the arm not possessing the characteristic marks of the genuine pustule. Anomalies, assuming different forms, may be excited according to the qualities of the virus supplied, or the state of the person inoculated; but by far the most frequent variety or

deviation from the perfect pustule is that which arrives at maturity and finishes its progress much within the time limited by the true. Its commencement is marked by a troublesome itching, and it throws out a premature efflorescence, sometimes extensive, but seldom circumscribed, or of so vivid a tint as that which surrounds the pustule completely organised; and (which is more characteristic of its degeneracy than the other symptoms) it appears more like a common festering produced by a thorn or any other extraneous body sticking in the skin than a pustule excited by the vaccine virus. It is generally of a straw-colour, and when punctured, instead of that colourless, transparent fluid of the perfect pustule, its contents are found to be opaque. That deviation from the common character of the pustule, arising from vaccine virus which has been previously exposed to a degree of heat capable of decomposing it, is very different. In this instance it begins with a creeping scab of a pale-brown or amber-colour, making a long and slow progress, and sometimes going through its course without any perceptible efflorescence. Its edges are commonly elevated and afford on being punctured a limpid fluid.

"A little practice in vaccine inoculation, attentively conducted, impresses on the mind the perfect character of the vaccine pustule; therefore, when a deviation arises, of whatever kind it may be, common prudence points out the necessity of re-inoculation, first, with vaccine virus of the most active kind, and secondly, should this be ineffectual, with variolous virus. But if the constitution shows an insusceptibility of one it commonly does of the other.

"When any constitutional symptoms occur in inoculated cow-pox they are commonly first perceptible, especially in children, on the fourth or fifth day. They appear again, and sometimes in adults not unlike a mild attack from inoculated small-pox, on the eighth, ninth, or tenth day. The former arise from the general effects of the virus on the habit, the latter from the irritation of the pustule.

"If the effluvia of the small-pox have been received into the habit previously to the inoculation of the vaccine virus, the vaccine inoculation will not always be found to stop its progress, although the pustule may make its advances without interruption.

"The lancet used for inoculation should always be perfectly clean. After each puncture it is proper to dip it into water and wipe it dry. The practitioner should be particularly cautious in observing that its point be free from rust, either contracted by common means or from the action of the vaccine virus, which even when dry and in contact with it has a tendency in a little time to produce it.

"The preservation of vaccine virus upon a lancet beyond the period of a few days should never be attempted, as it is so apt to produce rust, which will decompose it.

"EDWARD JENNER."

This Royal Jennerian Society, however, soon got into trouble on account of certain irregularities of its local vaccinator, and in 1808 it ceased to exist. The Royal College of Physicians of London, by the command of the King, were consequently ordered to inquire into the state of vaccine inoculation in the United Kingdom and report their opinion and observations on that practice. This was accordingly done, and the Royal College, after a full and impartial investigation of the subject, made a report, dated July 8th, 1807, highly favourable to the practice of vaccination and strongly recommended its adoption. The report contained a recommendation that the poor should be encouraged to undergo the treatment by its being offered free of expense, with the hope that by such means vaccination would in time supersede inoculation for small-pox. To this recommendation the birth of the National Vaccine Establishment is to be attributed on June 22nd, 1808. The Home Secretary, then Lord Liverpool, having given his first instructions that the Royal College of Physicians should be consulted as to the most effective means of carrying into execution the resolution of the House of Commons respecting the formation of a National Vaccine Establishment, on Dec. 21st, 1808, a scheme was accordingly drawn up by the President of the College (Sir Lucas Pepys), in conjunction with Dr. Jenner and the Right Honourable George Rose, which received Lord Liverpool's approbation; and on Dec. 28th of the same year the President and Censors of the Royal College of Physicians of London and the Master and Governors of the Royal College of Surgeons of England constituted themselves into a board which met to carry out the scheme in a manner which should be satisfactory to the public and creditable to the high authorities under which they were to act. The work of the institution commenced in Leicester-square on March 11th, 1809; and by May 25th of that year—in the first ten weeks of its existence—733 people had been vaccinated and 2500 charges of vaccine fluid had been distributed. This movement was consequently the origin of our National Vaccine Establishment.

I have before me the first seventeen reports of the institution—the three first are written, the others printed—and it is pleasant to read in these pages of its steady success in all ways, although with successes came reports of reputed failures of vaccination and complaints of want of energy on the part of some of the members of our profession in spreading its blessings. In the report of 1820 some distinct and valuable recommendations as to the method of vaccinating were printed. The board thought it right to direct that lymph should never be employed from any vesicle in which the slightest irregularity or imperfection could be observed; nor even from a perfect vesicle after the areola had formed; that two punctures be made in each arm in order to secure at least three perfect vesicles; that one vesicle on each arm should be left unopened, and the lymph be suffered to be absorbed or desiccate. The board was earnestly desirous that more rather than fewer vesicles should be produced, and was of opinion that it was especially wrong to confide in one vesicle and highly imprudent to open all. I would wish you to remember that this board was made up of the President and Censors of the Royal College of Physicians of London and Master and Governors of the Royal College of Surgeons of England, Dr. Latham's name standing at the head. In the same year, 1808, there had lately been established by Government "a Board of Health to prepare and digest rules and regulations for the most speedy and effectual mode of guarding against the introduction and spreading of infection, and for purifying any ship or house in case any contagious disorder shall manifest itself in any part of the United Kingdom, and to communicate the same to all magistrates, medical persons, and others, His Majesty's subjects, who may be desirous and may apply to be made acquainted with the same." This report was drawn up with the view of preventing the introduction of the plague or other contagious and mortal distempers. It was hoped that this board would adopt the same rules with respect to persons affected with small-pox. This Board of Health was doubtless the beginning of our present Local Government Board, which in its maturity has but little likeness to its first ancestor; for whereas at its origin the rules and regulations against the introduction and spreading of infection were at the service of those who might apply to be made acquainted with them, all such are now made compulsory and under the control of specially educated scientific men under whom the great work of sanitary reform has so distinguished our age. The way in which cholera has been kept from our country in recent years is an object lesson which has well demonstrated the value of our present system.

In 1802 the House of Commons voted Jenner £10,000, and in 1807 £20,000 more, as a reward for his discovery; but this was not done without opposition and much worry to Jenner. Indeed, in 1801, when the subject of vaccination came before a committee of the House of Commons appointed to receive evidence of its value, Jenner wrote to Lady Berkely, his neighbour, "that he trusted that the committee would hear enough to remove all that nonsense which has crept into the brains of some of the sceptics, and be able to trace it to its true source, when it will appear to have sprung either from jealousy, as at Gloucester (near his home); from envy, as at Bristol; and from stupidity, as half the country over." In 1798, after the publication of his book, Jenner spent many months in London to demonstrate the truth of his discovery, yet during this time he was unable to prevail on one individual to submit to the operation of vaccination. Mr. Cline, the distinguished surgeon of Guy's and St. Thomas's Hospitals, did the first case in London in August, 1798, using some of the virus Jenner had given him. He, however, evidently did it with only half faith as to its specific virtue, for he used the vaccine upon a boy who had hip disease, under the theory that the counter-irritation excited by the cow-pox might prove beneficial to the disease. The vaccination, however, took well and went through its normal course, and the influence of this case and Cline's example in using the virus did much to encourage the introduction of vaccination. In 1821 Jenner still complained of the want of encouragement he received from his own people, and he always considered London to be the centre of opposition to the vaccine

practice. In a letter to his friend Gardner he alluded to a paragraph from Berlin in which some high mark of distinction was made to his name by a foreign nation when no marks at all had been made by that to which he belonged. He wrote: "Not only the people you see assemble to celebrate my name, but the Court itself through the proper officers. And why are all these attentions paid to me? For this plain reason: they see the truth of my original position that 'vaccination properly conducted (in such hands as their own, for example) is capable of banishing from their city, and I believe their empire, the small-pox—the severest scourge that ever spread its desolations among them.' The observation must not be confined to Prussia, as it will equally apply to the Continent in general. If any portion of the Continent has been more conspicuous than another in eradicating this poisonous weed it is Denmark, as we are told in a late publication that it is now (1821) eleven years since a single case of small-pox has been recorded in Copenhagen or indeed in any part of the Danish dominions, so strictly have the edicts of the Government been enforced respecting the prohibition of small-pox inoculation and the use of the vaccine only."

But time warns me that I must bring my observations to a close, for hitherto I have drawn your attention only to Jenner's work on the cow-pox and the influence it has had upon the world in supplanting variolous inoculation and doing much towards realising Jenner's hopes and stamping out small-pox altogether. That this result may come is quite possible if human effort continues to work in the right lines, but that we have not yet reached it experience too surely records. It may, however, be said with truth that small-pox is now, thanks to vaccination, a comparatively rare and certainly a somewhat unheeded affection; indeed, it has for some years been so lightly regarded by the public that vaccination has neither been rightly valued nor carried out with the care which is essential to bring about its full beneficial effects. The influence of the anti-vaccinationists and the delay in the publication of the report of the Vaccination Commission, which has been sitting seven years, have also probably had a pernicious effect upon the public, leading the ignorant and thoughtless to believe that the law of compulsory vaccination has been abolished or suspended, and that the Vaccination Commission itself is hesitating about pronouncing a definite opinion upon the value of the practice and in enforcing its general adoption. It is to be fervently hoped that the conclusions of this Commission will be clear and decided, and as there can be no open question as to the value of vaccination in suppressing small-pox, so there ought to be no question as to the expediency and justice of making it compulsory. The object-lesson now being so painfully given at Gloucester, near Jenner's own home, ought to be taken to heart by the country generally, and strengthen the opinions of those in authority who are the custodians of the public health: for it has made clear, to all who know what vaccination has done in the past to suppress variola, that where it has been so disgracefully neglected, as at Gloucester, it has proved as fatal as of old in at least one case out of every five attacked; and that small-pox unchecked by the only known available means of vaccination would soon re-assume its former power and become the same devastating and disfiguring scourge it was in the seventeenth century. For my own part I cannot do otherwise than regard Jenner—the discoverer and introducer of vaccination—as the greatest benefactor of the human race that this or any other country has produced, and I believe that the magnitude of this single act, which now seems to us so simple, has had its influence in leading the professional world to look upon Jenner himself as by no means so great a man as many others who have done less good work than he. In this opinion I am sure the world has been entirely wrong, for no one can read his life as written by Baron—though not in a very happy vein—or read the many letters of his which are now in the Hunter-Baillie Collection and not feel that Jenner possessed the true Hunterian characteristics; that as an observer he was quick, deep, and accurate; as a worker, untiring and zealous; as an experimenter, careful and precise; and as a thinker, of the highest and clearest kind. Cautious almost to a fault, he, like Hunter, postponed the publication of his thoughts and discoveries until there was no room for doubt as to their truth, so that in 1823, a few days before his death and twenty-five years after he had given his great discovery to the world, he could write: "My opinion of vaccination is precisely as it was when I first promulgated the discovery. It is not in the least strengthened by any event that has happened, for it could gain no strength. It is not in the least weakened, for if the failures which have been reported had not happened the truth of my assertions respecting those coincidences which occasioned them would not have been made out." And now, nearly a century later, we his successors can endorse these views, for no flaw has yet been found in Jenner's discovery, or in his recognition of the value of re-vaccination. I could say much in support of my opinion of Jenner's general character, but time forbids, and I cannot do better in closing this address than quote some words from an autobiography of his intimate friend Mr. Gardner, commenced about 1810, this gentleman having been a man of literary tastes living at Frampton, near Gloucester. "In the year 1780," wrote Gardner, "I fortunately became acquainted with that luminary in philosophy and in the art of medicine, Dr. Edward Jenner, since the celebrated discoverer of the vaccine inoculation. I was so much flattered by him that I ranked amongst the first friends of his early youth. I reflect upon the hours, the days, the weeks, the months, and the years which I spent in his society as the happiest in my life. How often have I dwelt with silent attention upon his profound remarks upon various subjects of natural philosophy, particularly those of a physiological kind, and how frequently have I witnessed his skill displayed in the various parts of his profession. Honoured with this gentleman's friendship I have passed more than thirty years of my life and intercourse equally instructive and delightful. No man, I should suppose, has known Dr. Jenner more than myself, and to know him is to know everything that is excellent in human nature. His skill in his own profession has long been acknowledged and has been by the learned world justly appreciated. The genius of Jenner was formed by nature for higher pursuits than the medical art. He was the poet, 'poeta nascitur'; that gift divine so rarely bestowed upon man was given to him, and though his unremitting ardour in the pursuit of natural history and his attention to the duties of his profession prevented him from the frequent exercise of his talent for poetry, yet the fire, in some measure extinguished but not smothered, sometimes burst out. He was peculiarly happy in epigram. Dr. Jenner, so eminent as he is by his natural and acquired endowments, by a sort of singular composition of character has not lost any of those soft amenities which polish the surface of human life. In him was always perceived the gentleman of polite and elegant manners which gilded over the profundity of his philosophic remarks. Nothing harsh was ever found in Jenner, and were I inclined to censure any part of his conduct it would be his too ready acquiescence with the sentiments of some of his associates, however absurd; but this was the acquiescence of philanthropy. As the discoverer of the vaccine inoculation we behold him for a series of years unremittingly pursuing the grand object which he had in view, undismayed by prejudice and only smiling at the assaults of ignorance. Shielded by his good sense from the shafts of envy, he consigned to posterity (that certain judge of merit in every branch of science) the eulogium of his genius and his labours. With this distinguished character I have in the social intercourse of uninterrupted friendship spent more than thirty years of my life; in his company I have experienced some of the happiest days of my existence. He was my guide, my counsellor, and my friend. Language can go no further." Nor, may I add, is any addition wanted, for such testimony as I have read from a lifelong friend of Jenner and which was not written for publication bears the stamp of truth upon it. It remains for us, therefore, to recognise the claims of Jenner upon the admiration and gratitude of humanity, and as Englishmen to be proud of the distinction which his immortal discovery has conferred upon us. Let us keep in mind the opinion of Professor Virchow, speaking as an ethnologist in Berlin on May 14th, 1896, that "all the peoples that had not been reached by vaccination, or that had not accepted it, had disappeared from the face of the earth destroyed by the small-pox"; with that of M. Hervieux, who, on May 12th, 1896, in an eloquent address upon Jenner delivered before the Académie de Médecine in Paris, said:—"Resting on the triple base of animal vaccine, re-vaccination, and compulsion, this power is sufficient to defy all the assaults of small-pox, and may be proclaimed to be the grandest conquest of medical science." But our gratitude and pride must not stop here, for Jenner by his methods of investigation pointed out to scientific men a new direction in which future triumphs were to be won, and which in the

hands of our best scientists already promises to be productive of untold value. The results of their work and consequently of Jenner's work cannot yet be fully estimated, but the light which has been thrown by Pasteur and his co-workers—when working in Jenner's line—upon the causes of specific diseases and the means of fighting them has encouraged the most hopeful of us to expect that many, if not all, of the contagious diseases with which we are now afflicted may in the near future be as much under human control as small-pox is now known to be, and that the development of Pasteur's work in the direction which has been so skilfully worked out by Sir Joseph Lister may in the future be productive of as much good as it has already proved to have been in the past. Let us, then, cherish these memories and encourage such labours and be careful whilst we do so not to lose anything of their value by carelessness or indifference.

The Croonian Lectures:

A CONTRIBUTION TO THE STUDY OF THE BLOOD AND OF THE CIRCULATION.

Delivered before the Royal College of Physicians of London,

BY GEORGE OLIVER, M.D., F.R.C.P. LOND.

LECTURE IV.[1]

Delivered on June 11th.

MR. PRESIDENT AND GENTLEMEN,—During recent years observers have found that the percentage of the hæmocytes is considerably affected by altitude, baths, massage, and by surgical interference, such as opening the abdomen and section of the cord.[2] Certain theories have been suggested in explanation of these variations, and it will be convenient to refer to them now, as a whole, before dealing with the results of further observation by means of the new modes of rapidly determining the corpuscles and hæmoglobin described in the last lecture. They may be broadly divided into two classes—namely, those which refer the increase or the reduction of the percentage of the chromocytes either to (1) the corpuscles themselves or to (2) variation in the quantity of water in the plasma.

I. *Theories associated with the corpuscles.*—Three such have been suggested—namely, (1) formation and destruction of corpuscles, (2) dislodgement of resting corpuscles, and (3) transference of corpuscles.

1. The formation and destruction of corpuscles. Whenever a marked increase of the number of the corpuscles has been observed, as in high altitudes, the first adopted theory has almost invariably been that of increased formation.

2. Dislodgement of resting corpuscles has been advanced in explanation of the effects of massage.

3. The transference of corpuscles from the arteries to the capillaries and *vice versâ* was suggested by Cohnstein and Zuntz[3] in explanation of the variation in the number of the corpuscles which they observed in the arteries on the one hand, and in the capillaries on the other, as the result of experiments on animals. These observers found that the proportion of the corpuscles to the plasma was definitely varied in the large vessels and in the capillaries by cutting the cord, by electrically stimulating the cut cord, and by other procedures, and they concluded that the capillaries are normally poorer in corpuscles, and therefore richer in plasma, than the larger vessels, that when the arteries leading to the capillary field are contracted the blood in that field becomes still poorer in corpuscles and that elsewhere still richer, and that when the arterioles are dilated the capillary blood contains a larger proportion of corpuscles, and the plasma previously present in it in comparative excess is now distributed and dilutes the rest of the blood. According to this theory widening of the arterioles and filling of the capillaries produce the same effect on the blood of the large vessels as resorption of fluid and narrowing of them as increased filtration.

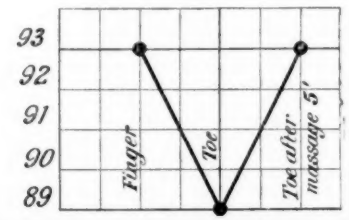
II. *Theories founded on alterations in the proportion of water in the plasma.*—An apoplasmic state of the blood has been referred to (1) increased transudation from the capillaries; and (2) increased discharge of water from the kidneys, skin, and mucous membranes.

1. Increased transudation from the capillaries. Regëczy,[4] Brasol,[5] Klikowitsch,[6] and others refer peripheral changes in the circulation to disturbance of the equilibrium between filtration on the one hand and resorption on the other, and the adjustment of the normal balance to the operation of these forms of transudation. Though this theory does not explain the variations that take place in the peripheral vessels, it is nevertheless not at all improbable that rapid exudation of watery fluid from the capillaries plays a most important part in the temporary and quickly induced alterations of the blood which result from all forms of exercise, and Professor Sherrington refers the striking reduction of the plasma which he has observed as the consequence of setting up local inflammation in animals to "increased exudation through the vascular membrane in the inflamed area."[7]

2. Increased discharge of water from the kidney, skin, and mucous surfaces is an undoubted cause of apoplasmia in various physiological and pathological conditions presently to be referred to. The following observations mainly support the theories founded on fluid-transfer from the blood, and do not corroborate those relating to the formation and destruction or to the dislodgement and transference of corpuscles.

I. *The blood derived at the same time from different parts of the body* does not always afford the same percentages of corpuscles and hæmoglobin. A large number of observations were made on subject A. with the invariable result that the blood furnished by the toes was much poorer than that afforded by the fingers. This disparity does not seem to be the same in all individuals, for in subject B., who possesses a higher arterial pressure, it was less apparent. It does not, however, follow that the blood present in the vessels of the parts in question is actually different in quality, for it has been repeatedly found that when the toe, which yielded a sample of very inferior quality, was well rubbed it furnished another quite comparable with that derived from the finger (Fig. 19).[8] Probably, therefore, the cause of the difference is not in the blood itself, but is to be found outside the vessels. It is not unlikely that a larger amount of lymph is normally present in the tissues of the feet than obtains in other parts in consequence of gravity increasing the intra-capillary pressure and thus augmenting exudation and at the same time retarding the onflow of lymph. It would, therefore, seem that massage applied to the toe merely disperses this excess of tissue lymph and enables the observer to ascertain the quality of the blood as it actually exists in the vessels. Exactly the same thing is not infrequently observed in anæmia, the percentage of the corpuscles and hæmoglobin rising very considerably after the application of massage for a few minutes to the finger. Probably, therefore, there is often, if not generally, an excess of tissue fluid even in the finger in anæmia, and consequently in this condition the

FIG. 19.



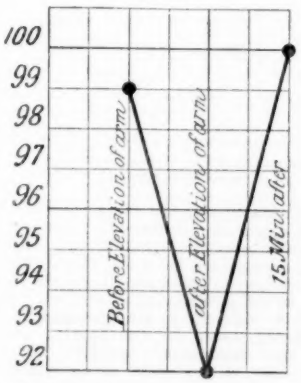
Percentages of corpuscles in finger and in toe before and after massage of toe.

[1] Lectures I., II., and III. were delivered on June 2nd, 4th, and 9th, and published in THE LANCET of June 6th, 13th, and 20th respectively.
[2] References to these observations are given subsequently.
[3] Pflüger's Archiv, 1888.
[4] Ibid., Band xxxvii.
[5] Archiv für Anatomie und Physiologie, 1884.
[6] Du Bois' Archiv, 1886.
[7] Proceedings of the Royal Society, vol. lv.
[8] For the sake of clearness and brevity the variations in hæmoglobin are omitted from all the figures.

sample of blood obtained in the ordinary way without previous massage does not always afford a true reading of the actual state of the blood. The existence of this diminutive degree of œdema in the insufficiently nourished tissues of the anæmic is, moreover, rendered probable by the experiments of Lazarus-Barlow. This observer says: "This explanation of œdema as the result of anæmia I have confirmed in the following way. By means of an Esmarch's bandage I rendered the limb of a dog bloodless, while at the same time, of course, most of the lymph was removed from the part. After keeping the limb thus anæmic for from two to three hours I removed the bandage, and now by means of the specific gravity method I found that œdema came on. The arterial blood rose in specific gravity; the blood in the femoral vein rose in such a way as to show that more fluid was being lost during the passage through the limb than normal; and the muscles and skin fell in specific gravity. Starvation of the tissues, therefore, plays an important part in the causation of passive œdema."[9]

II. *Posture.*—The remarkable effects of gravity on the composition of the blood is well illustrated by passively elevating a limb (arm or leg) for fifteen minutes. Figs. 20 and 21 show that the percentage of the corpuscles is thus markedly reduced. This result was invariable in both subjects. It will be observed (Fig. 21) that even the blood derived from

FIG. 20.



Percentages of corpuscles before and after passive elevation of arm.

the great toe, which is poorer in corpuscles than that of the finger, becomes still poorer after passive elevation of the leg for fifteen minutes, and that the blood afforded by the finger before resumption of the erect posture acquires a higher percentage of corpuscles than was present before the legs were elevated. These alterations in the proportion of the corpuscles is much in keeping with the effects of gravity on the blood pressure described in the first lecture. (Fig. 21.) It was then shown that when the legs were passively elevated the radial pressure was considerably increased, and that the passive elevation of a limb above the level of the arch of the aorta reduces the arterial pressure in that limb. It may, therefore, be inferred that the variations in the percentage of the corpuscles are in keeping with similar alterations in the intra-capillary pressure; that when there is an increase in both (as in the recumbent parts) there is probably augmented normal exudation; and when there is a reduction (as in the elevated limb) there may be an arrest of normal exudation or probably there is an osmotic inflow of tissue-fluid into the blood through the capillary wall.[10] According to the theory of Cohnstein and Zuntz[11] the diminution of corpuscles in the elevated limb should be referred to an increase of the normal

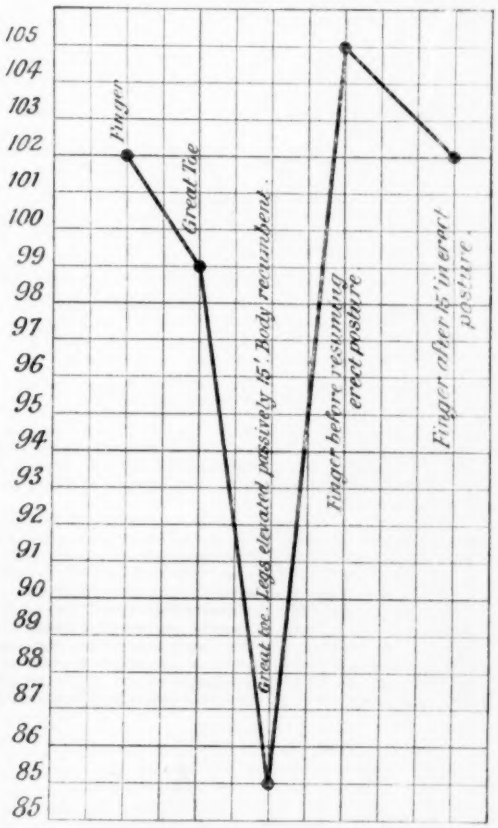
[9] The Pathology of Œdema, Brit. Med. Jour., 1895, vol. i., p. 635.

[10] Dr. Starling's experiments support this explanation. "Whereas capillary pressure determines transudation the osmotic pressure of the proteids of the serum determines absorption. With increased capillary pressure we shall have increased transudation until we get equilibrium established. ..... With diminished capillary pressure there will be an osmotic absorption of salt solution from the extra-vascular fluid until this becomes richer in proteids."—The Arris and Gale Lectures, THE LANCET, May 16th, 1896.

[11] Op. cit.

disproportion between the plasma and the corpuscles in the capillary area, and the augmentation of them to a removal or diminution of that disparity as a result of the opening up and the extra filling of the peripheral vessels of the recumbent parts. Whichever theory be accepted the fundamental position remains that the alterations in the

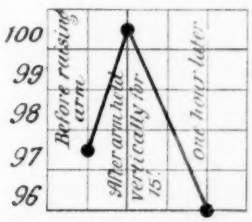
FIG. 21.



Percentages of corpuscles in finger and toe. Effect of posture. Legs elevated with support.

blood are closely associated with similar differences in the intra-capillary pressure; and this is further illustrated by the fact that when a limb is maintained in the vertical position by muscular action the percentage of the corpuscles is not only not reduced, but is actually increased (Fig. 22).

FIG. 22.

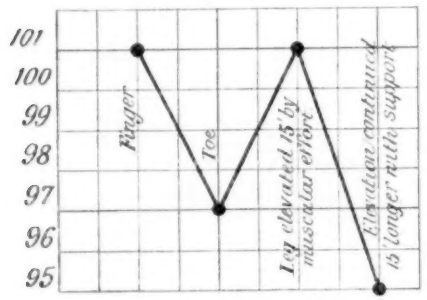


The percentages of corpuscles in the finger before and after raising the arm vertically by muscular effort fifteen minutes.

Fig. 23 further illustrates this fact, for it shows that elevation of the leg by muscular effort may raise the percentage of corpuscles in the blood of the toe to that of the finger, and that on passively maintaining the position of the limb

the usual fall of the percentage then takes place. From these observations it would seem that the intra-capillary pressure of the elevated limb is not only prevented from falling, but is increased by the afflux of blood which occurs when the muscles are brought into play, and that when the muscular action is withdrawn and the vertical limb is passively supported the intra-capillary pressure promptly falls. These observations on the influence of gravity on the composition of the blood and the thwarting of that influence

FIG. 23.

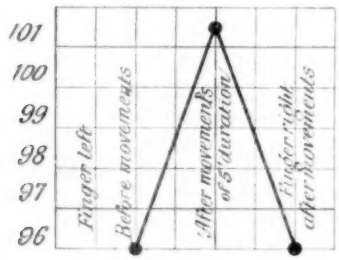


Percentages of corpuscles in finger and in toe before and after active followed by passive elevation of leg.

by muscular action illustrates the wisdom of passively supporting a part when in a state of inflammation or inflammatory congestion, for such a procedure not merely tends to reduce the blood pressure, but to diminish the percentage of the corpuscles also.

III. *Exercise.*—The effects of local exercise on the relations of the red corpuscle will be considered before those of general exercise. *Local exercise* may be active or voluntary, as when the hand is flexed and extended on the forearm until fatigue is induced, or when the muscles of the arm are thrown into a state of tonic contraction, as in the resistive movements, or it may be passive as when produced by faradism or massage. It has been found that muscular action, however induced, causes an immediate decisive and proportionate rise in the percentages of the corpuscles and the hæmoglobin. Fig. 24 illustrates this effect produced by

FIG. 24.

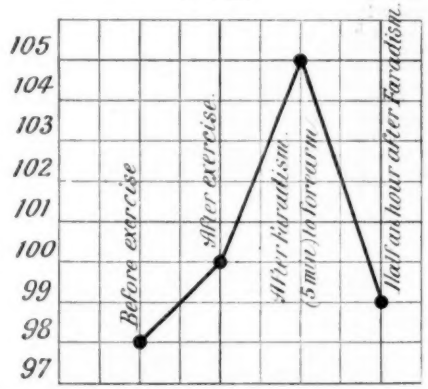


Percentages of corpuscles before and after local exercise.

flexion and extension of the forearm, and the same result is induced by resistive movements, by massage, and by faradism. Fig. 25 shows that the rise caused by local exercise may be extended by faradism. In all cases the increased percentage of the corpuscles was purely local, for at the termination of the procedure the blood yielded by the opposite finger presented the same proportion of corpuscles as was observed before the muscles were brought into action. Though the rise was rapid it did not subside so quickly, for the disappearance of it generally required from thirty to sixty minutes, and in the case of massage it lasted longer than after voluntary exercise or faradism. It was observed that galvanism of the forearm (contraction of the muscles being avoided) and faradism of the finger and massage of the finger[12] did not disturb the reading of the corpuscles. The invariable antecedent of the rise of the corpuscles was either muscular contraction or manipulation of the muscular tissue, which in producing this effect is equivalent to muscular contraction. Inasmuch as the rise in hæmoglobin is proportionate to that of the corpuscles, this common effect of active and passive exercise of the muscular tissue for short periods is obviously due to an increased proportion of chromocytes to the plasma. How is this temporary and strictly local apoplasmia produced?

In the first lecture it was pointed out that there was some probability in the view that the increased volume of blood

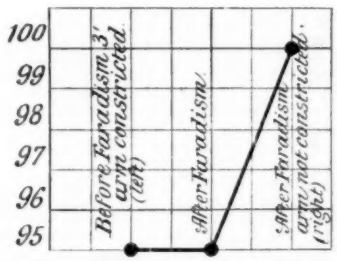
FIG. 25.



Percentages of corpuscles before and after local exercise and after faradism following the exercise.

which circulates through the muscular tissue when brought into action, and the consequent increase of the intra-capillary pressure within that tissue, may lead to the effusion of watery fluid from the blood into the substance of the muscles. But inasmuch as the blood-supply of the finger is not immediately connected with that of the muscles it is difficult to see how muscular exercise can thus affect the blood in the finger. This, however, is not the only explanation available, for it is known that in a state of rest there is no lymph-flow at all,[13]

FIG. 26.



Percentages of corpuscles before and after faradism with arm constricted and non-constricted.

and that muscular contraction is necessary to propel the lymph from the lymph spaces into the lymphatics; therefore, when all the muscles of a limb are thrown into action there will be an immediate acceleration of the circulation of lymph from the whole limb, including a considerable area of non-muscular tissue, accompanied by an augmented exchange of fluid from the blood to the tissues (non-muscular as well as muscular). The muscular action of a limb, therefore, accelerates the circulation of all the fluids in the limb, and the increased intermediary transfer of fluid from the blood through the capillary wall to the lymph spaces and from these to the lymphatic vessels must reduce the volume of the plasma in all the vessels of the limb. There is one experiment recorded which may have a bearing on this explanation (Fig. 26). The left arm was

[12] This observation only holds good when the circulation is normally vigorous, for when it is enfeebled, and especially when the blood is poor in corpuscles and hæmoglobin, massage of the finger may produce a marked rise of the chromocytes.

[13] Starling, op. cit.

firmly constricted above the elbow, but not so constricted as to affect the pulse, and the muscles of the forearm were thoroughly faradised for three minutes; but the blood drawn from the left forefinger afforded no evidence of change. Faradism was then applied in exactly the same manner and duration to the right forearm free from constriction, and the blood of the right forefinger showed the usual marked rise of corpuscles. The inference seems to be that in the former case the lymph-flow was arrested by the constriction and the accumulation of tissue fluid nullified the rise of the corpuscles. Moreover, when treating on general exercise an observation will be adduced which shows that exercise does cause an increased transfer of fluid to the tissues, which, however, lodges in a limb until it is removed by massage or by muscular contraction. Cohnstein and Zuntz might refer this effect of muscular contraction on the blood to the increased filling of the whole peripheral area of the exercised part—the normal relative excess of plasma in that part being thus diminished. But later it will be shown that when the non-muscular part of the periphery is well filled by the agency of warmth the corpuscles are found to be reduced. All the facts seem to be best explained by the view that muscular contraction stimulates the circulation of all the fluids and aspirates, as it were, the lymphatics of the non-muscular and remote parts of the limb, and thus reduces the storage of tissue lymph in them. Moreover, this view explains to a large extent the wide-reaching effect of exercise on the nutrition of all the tissues by promoting that most important part of the circulation of fluids, the intermediary circulation. In this way, in all probability, some of the benefit which is derived from modulated movements, such as the resistive exercises, is to be explained.

Since these observations were made I find that Chéron has observed that massage, dry friction, and electricity will within ten minutes greatly increase the number of the corpuscles—in one case of anæmia raising it from 2,430,000 to 4,080,000 per c.mm. He also attributes the rise to concentration of the blood from increased transudation of fluid which results from augmentation of the blood pressure.[14] After an hour's massage J. Mitchell noticed an increase of the chromocytes which attained its maximum an hour after the cessation of the process, but without a corresponding rise in the hæmoglobin. He explains this anomaly by suggesting that massage may dislodge a number of corpuscles poorer in hæmoglobin than those in circulation which were resting in various parts of the body.[15] So far I have not met with any corroborative evidence of this observation or of this suggested explanation of it. It is but natural that those who have observed the blood before and after massage should dwell on the immediate effect as evidence of the benefit at once conferred by the procedure. It is well, however, to keep in mind that the observed alteration in the blood is merely an indication that the massage, like exercise or faradism, has advanced the onflow of tissue fluid and has increased the transudation of fluid from the blood, so that this for a time is poorer in water and therefore richer in corpuscles. In anæmia it is highly probable that the repeated stimulation of the intermediary circulation by massage will eventuate in an improvement of the blood, but only because, like other forms of exercise of the muscles, it raises the nutrition of all the tissues.

General exercise.—In animals it has been observed that active exercise produces an increase in the percentage of the corpuscles and hæmoglobin and a fall in the blood-decimal. For instance, an hour's run in a dog that had been kept in the laboratory for several weeks raised the corpuscles from 99·5 per cent. to 110 per cent. and the hæmoglobin from 104 per cent. to 109 per cent., and reduced the blood-decimal from 1·04 to 0·99. It has been shown by Löwit that binding down and tying of animals, especially when long continued, induce severe changes in the composition of the blood.[16] I have observed that the struggling of a rabbit for merely a few minutes (as when the animal is carried by the ears or is tied up) will impair the validity of the results of any observations of the blood made for specific purposes. For instance, in one case before such strenuous muscular effort the corpuscles read 92 per cent., but immediately after it 110 per cent., and in ten minutes afterwards 105 per cent. Therefore, it would seem that profound (though temporary) alterations in the blood are immediately induced by very active general muscular action.

In attempting to determine the effects of general exercise on the blood it is difficult to eliminate the rise in corpuscles due to perspiration. The general results, however, of the observations already made may be stated to be a rise in the corpuscles, which after a variable period somewhat subsides, but remains above the initial percentage while the exercise lasts, and a similar though diminished rise and reduction of the hæmoglobin percentage. The rise in corpuscles and hæmoglobin produced by an hour's active walk generally subsides after an hour's rest. The immediate effect of general exercise on "the worth" is to reduce it, and the remote effect—observed after the lapse of some hours—is to increase it.[17] It would seem that in general exercise there are the same increased transfer of fluid from the blood and the same augmented lymph-flow as take place in local exercise: but the concentration of the blood thus induced is after a time somewhat lessened by the return of a portion of that fluid to the blood. It was found that when an arm is slung at rest and without constriction during exercise the volume of the limb increases and the blood yielded by the finger falls in corpuscles while that afforded by the free and exercised arm rises, and then when the finger of the passive arm is well rubbed upwards and rolled for a few minutes it furnishes a sample equally rich in corpuscles as in that obtained from the opposite finger. This observation was repeated in two subjects who ascended the Schatzalp (1020 ft.) at Davos, and as the results were the same in both it is only necessary to give the figures furnished by one of them. On return from the ascent the blood from the finger of the slung arm contained 3 per cent. fewer corpuscles and that from the opposite finger 5 per cent. more than on starting out, and after massage of the former finger the corpuscles rose 8 per cent., so that now they read exactly the same on both sides.[18] This observation shows that in the non-exercised limb the tissue fluid was increased, probably from the rise in blood pressure resulting from the general exercise, but in the absence of muscular contraction it was not removed from the tissues as in the exercised limb, so that the blood issuing from the finger of the passive arm was diluted by it until it was dislodged by massage, when the true state of the blood was ascertained—namely, a rise in corpuscles equal to that observed in the exercised limb. Probably the effect of general exercise is modified by the amount of tissue lymph present when the exercise is taken. In those, for example, who do not take exercise habitually or in whom the circulation is languid or the blood poor the lowered intermediary circulation favours the storage of tissue fluid, and exercise may even fail to incite a rise in the corpuscles. On the other hand, those accustomed to regular active exercise have a smaller storage of tissue lymph, good percentage of corpuscles and hæmoglobin, and a permanently high specific gravity of the blood.[19]

IV. *Digestion.*—Observation of the effects of ninety-six meals (breakfast, lunch, and dinner), each having an average supply of seventeen ounces of fluid, shows that, as a rule, in from two to three hours the percentages of the corpuscles and hæmoglobin fell in 70 per cent., rose in 23 per cent., and were without change in only 7 per cent. The evidence, therefore, preponderates in favour of a fall of the chromocytes[20] and hæmoglobin during digestion. The average "worth" showed but little alteration, for in 53 per cent. of the observations it slightly fell, while in 47 per cent. it either rose or presented no variation. Two other facts were also very frequently apparent—namely, a preliminary and very transitory rise shortly after the meal and a rise with slight gain in "worth" subsequent to the lowest point of the fall. These stages of the effect of the digestive process on the blood taken from the systemic periphery are probably the resultants of several causes, of which perhaps the most prominent may be fluid transfer and the hæmolytic and hæmopoietic functions of the organs accessory to primary digestion. The preliminary rise may be due to the copious

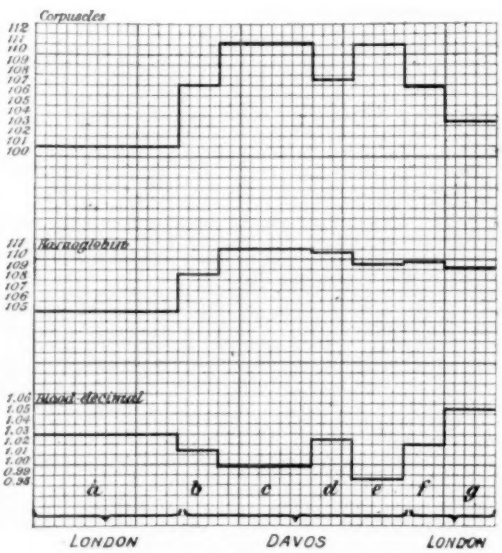
[14] Comptes rendus de l'Académie des Sciences, tome ii., No. VI., 1895.
[15] Massage and the Blood. American Journal of the Medical Sciences, May, 1894.
[16] Studien zur Physiologie und Pathologie des Blutes und der Lymphe, p. 9, quoted by Sherrington. Proceedings of the Royal Society, vol. lv.
[17] Though the data obtained support these positions I do not present them just now because observation in this direction should be extended.
[18] For the sake of clearness I have omitted to give the hæmoglobin estimations. The fall in the blood-decimal the result of this effort was 0·05.
[19] Lloyd Jones: Journal of Physiology, vol. xii., p. 318.
[20] Hayem states that his pupils Dupérie and Cadet found a diminution of from 200,000 to 300,000 corpuscles per c.mm. during digestion.—Du Sang et de ses Altérations Anatomiques, Paris, 1889.

outpouring of the digestive juices. But this effect is so transitory that it may be easily missed, even though the meal is a solid one; therefore, it would seem that it is quickly compensated, either by the absorption of fluid, as from the tissues, or perhaps by a cytolytic process. The digestive fall appears to coincide with an increase in the volume of the blood and with a reduction of the specific gravity as observed by Lloyd Jones, and the subsequent rise with a reduction of the blood volume through renal elimination and a corresponding increase of the specific gravity.[21] It has been observed that these variations are not caused by the water taken with the meals, for they are quite as pronounced when it is withheld. Time and opportunity have so far failed me to ascertain the effects of certain diets on the blood decimal—such as one exclusively vegetable or animal (e.g., red meat and hot water, the Salisbury diet) and the osmotic effects of water and especially of mineral waters.

V. *Altitudes.*—The remarkable effect of altitude in raising the percentage of the corpuscles and hæmoglobin has furnished one of the most interesting physiological problems in relation to the blood—a problem which has of late years attracted many observers, who have now collected a fairly large body of data with a view to its solution. All these observers (including Viault,[22] Egger,[23] Mercier,[24] Von Jaruntowsky and Schröder,[25] Miescher,[26] Wolff and Koeppe,[27] are perfectly agreed as to the facts—namely, the presence of a larger number of hæmocytes in the inhabitants of mountainous regions than in the residents of lower altitudes, and a rapidly induced increase of them in those of the latter who resort to the mountains—an increase which, however, as rapidly passes away when they return to the plains. Among the residents Viault enumerated 8 000,000 per c.mm. on the Cordilleras (14,274 ft.) and Egger, 7,000,000 per c.mm. at Arosa (6100 ft.) in Switzerland. It has been observed in those who visit the higher levels that the increase begins shortly after arrival. Egger estimates that in healthy subjects it amounts to 702,000 and in tuberculous subjects 982 000 per c.mm. in fourteen days. Wolff and Koeppe at Retboldsgrün (2257 ft.) observed that in from twenty-four to thirty-six hours after arrival an average rise of 1,000,000 per c.mm. takes place, and this is followed, first by a decline, and then by a further increase, until an average of 5,970,000 per c.mm. is attained. They found, moreover, that the proportionate hæmoglobin at first fell and afterwards rose. Von Jarnutowsky and Schröder at Görbersdorf (1740 ft.) observed the same fact; and, moreover, found that mild phthisical cases acquired a larger number of corpuscles per c.mm. than are present in healthy persons in the same altitude, and that severe cases attained even more than are generally found in normal individuals residing in lower parts. The lessening of the percentage of the hæmocytes on return to the valleys and plains is just as rapid as is the increase produced by visiting the higher altitudes. Miescher gives an example of the progressive daily fall of 250,000 per c.mm. for a series of six days, so that in this case at the expiration of this short period 7,200,000 per c.mm. on leaving Arosa were reduced to 5,700,000. With the view of observing for myself this interesting effect of altitude I spent twenty-three days at Davos Platz (5200 ft.) last month. Exactly the same mode of life was there followed as in London in regard to exercise, &c. The leading results are shown in the annexed diagram (Fig. 27), in which the night and morning observations are averaged for certain periods—namely, (*a*) fourteen days preceding the visit (affording the basis of comparison), (*b*) the first four days of the visit, and (*c*) the ten following days during which the daily consumption of water was the same as in London, (*d*) four days in which it was increased (from fifty to seventy-five ounces), (*e*) five days in which it was again the same, (*f*) four days, and (*g*) five days after returning to London. The corpuscles began to rise within twenty-four hours and attained their maximum percentage within the first week. The average increase during the second portion of the visit (*c*) was 10 per cent. and the maximum rise 14 per cent. The hæmoglobin increased, but in a less degree than the corpuscles. Consequently the blood-decimal fell from 1·03 to 0·99; when, however, the consumption of water was increased and the corpuscles were reduced in number it rose to 1·025, and when the ordinary quantity of water was was resumed it again fell.

There is another fact strikingly apparent in the Davos observations—namely, the greatly reduced range of the night and morning variations of hæmoglobin and of the corpuscular worth, and particularly the latter. Whereas in London they varied 9 per cent. and 0·05 respectively, at Davos they were reduced to 4·2 per cent. and 0·02. The night and morning variations of the corpuscles were only slightly diminished (from 2·9 to 2·4 per cent.). It therefore follows that though the night and morning worth was reduced the hæmoglobin was more uniformly distributed over the twenty-four hours at Davos than in London and the worth during the day was approximated to that of the night. After leaving Davos the corpuscles fell much more slowly than after arrival, and the hæmoglobin remained at much the same level as during the visit; hence the blood-decimal rose, and, indeed, advanced beyond the degree present in London

FIG. 27.



The percentages of corpuscles and hæmoglobin and the blood-decimal at Davos Platz and in London before and after the visit.

before the visit. This after-effect would seem to show that Davos has impressed the blood most favourably, notwithstanding the fall of the blood-decimal during the immediate influence of the altitude. The question arises, Would this gain in value have taken place at Davos had the visit been prolonged? On return to London the night and morning variations in hæmoglobin and worth again widened as before. I am hoping to make another and a longer series of observations on the effects of altitude on the blood. In explanation of the facts there is a somewhat remarkable agreement among the different observers. They all regard the increase of the chromocytes as due to rapid construction incited by lessened supply of oxygen from the reduced pressure, and they believe that it compensates for the deprivation of oxygen. Recently Grawitz has criticised this position and has shown it to be untenable.[28] He points out that the experiments of A. Fränkell and Gepert, in which dogs were subjected to an atmospheric pressure equal to that of an altitude of 16,000 ft., show that the blood contains at that greatly reduced pressure as much oxygen as at the ordinary pressure. Therefore it would seem that in altitudes below 16,000 ft. there does not exist a need for a compensatory increase of the chromocytes.

Besides this, the theory of new formation is highly improbable from the extreme rapidity of the rise, and from its

[21] Op. cit.
[22] Comptes Rendus, tome iii., p. 917, 1890.
[23] Verhandlungen des xii. Congress fur Innere Medicin, Weisbaden, 1893.
[24] Archiv der Physiologie, Band xxvi, 1894.
[25] Münchener Medicinische Wochenschrift, No. 48, 1894.
[26] Correspondenzblatt der Schweizer Aerzte, Band xxiii., No. 24, 1893.
[27] Munchener Medicinische Wochenschrift, 1893, Nos. 11 and 43.
[28] Berliner Klinische Wochenschrift, 1896, pp. 713 and 740.

being still more rapid and greater in the phthisical than in the healthy. Moreover, when on returning to lower levels the percentage falls there are no signs of wholesale destruction of chromocytes, such as hæmoglobinuria, icterus, and bilirubinuria. The observers have described the appearance of a number of small forms in the blood after seven or eight days which they regard as young chromocytes; and as they assert that these increase in number as the ordinary regular sized corpuscles decrease, they conclude that during the first week the old corpuscles undergo destruction and new ones are formed. Grawitz, on the other hand, believes that this microcytosis arises from the lessening of the red discs in consequence of the loss of water, there being a diminution and a concentration of the serum (oligoplasmia) from the same cause. I am inclined, however, to doubt if this explanation of Grawitz will account for the appearance of the microcytes, for shrinking of the chromocytes from loss of water would probably lead to alteration in their appearance, such as crenation, which would scarcely escape observation. The blood was frequently observed during my visit; but the presence of microcytes was never detected, nor were any changes observed in the appearance of the corpuscles. Perhaps the microcytes described by previous observers were such as are met with in anæmia. It is obvious that this is a matter requiring further observation. Grawitz points out that the investigators who held the view of the new formation of corpuscles have not mentioned the presence of nucleated red discs and the increase of leucocytes which are generally met with when the blood-cells are being formed after hæmorrhages, &c. He refers the solution of the problem to increased loss of water from the blood through the skin and respiratory tract in consequence of the great diminution of humidity in the atmosphere. There are many facts in support of this view. Meteorologists find that the reduction of humidity is more rapid than that of the atmospheric pressure, and certainly a fall of from 40 to 50 per cent. of the absolute moisture present on the sea-level must greatly increase the abstraction of water from the blood by transpiration through the skin and the oro-respiratory mucous membrane. Though this explanation is highly probable it would, I think, be more conclusive were it proved that the corpuscles rise in number in places equally dry near the sea-level, such as Egypt. At the same time also we should not overlook the fact that high altitudes may perhaps favour polycythæmia in another way. In the first lecture it was shown that deep breathing raises arterial tension. The rarified air of mountain climates is known to induce deeper breathing, and, in consequence, to increase the circumference of the chest from one to three inches.[29] Shortly after arriving at Davos it was observed that my arterial tension was raised and continued to be raised throughout the visit, for the radial pressure and calibre were increased, the former being from 20 to 30 mm. of Hg., and the latter from two to three points higher than in London, and, moreover, the postural variation was reduced from one to three points. All these signs of increased arterial tension gradually subsided after leaving Davos.

Some facts were adduced in the second lecture which favour the view that increased intra-capillary pressure augments transudation from the blood, and later other data will be referred to which point to increased arterial tension as a common cause of apoplasmia by raising the excretion of water. It would, therefore, seem probable that two factors combine to produce the polycythæmia in question—namely, increased transpiration of water from the dryness of the air[30] and increased arterial tension from the reduced atmospheric pressure. When the consumption of water was increased (Fig. 27) the operation of the first cause was, at any rate in some degree, counteracted and the corpuscles fell 3·5 per cent., still there remained a rise of 6·5 per cent., which was probably largely due to the increased arterial tension produced by altitude. From the facts observed it may therefore be concluded that the physiological effect of altitude on the blood is to raise the percentage of the corpuscles more than that of the hæmoglobin and thus to reduce the blood-decimal, and that this reduction may be counteracted by the increased consumption of water. This fact is in the main in keeping with my clinical observation of apoplasmia, for it has been almost invariably observed that when the percentage of the corpuscles is increased beyond the normal that of the hæmoglobin is not raised in proportion, and therefore the blood-decimal falls, and that when the supply of water is increased the corpuscles fall in number and rise in value. The wherefore is not obvious, but repeated observation has shown that water in some way raises "the worth" when an undue proportion of corpuscles exists, and that it is of undoubted value in the treatment of apoplasmic anæmia to be referred to later. Dr. Theodore Williams[31] regards high altitude climates as contra-indicated in anæmia, diseases of the heart and great vessels, chronic renal disease, and in all forms of albuminuria. This physiological study so far seems to support this clinical experience. In anæmia, perhaps, the ingestion of more fluid will prevent the fall of the blood-decimal. The ultimate rise in hæmoglobin value after a preliminary fall described by Wölff, Koeppe, von Jaruntowsky, and Schröder may represent the adjustment produced by the increased consumption of water prompted by the thirst which high altitude induces. It is easy to understand how cases of cardiac incompetency may be severely tried by the rarified and dry air of high altitudes, for the friction co-efficient of the blood will be increased by the polycythæmia and the deeper breathing will tend to maintain heart-hurry, and over-incitement of the weakened heart may be maintained by the increased respiration. But inasmuch as the breathing of rarified air seems to lead to filling of the arteries and reduction of the veins, it is quite conceivable that if applied *gradatim* in suitable cardiac cases it might prove to be of considerable therapeutic value. Physiology and pathology likewise join hands in regarding cases of chronic interstitial nephritis as unsuitable for treatment by the mountain cure, for in that disease polycythæmia and high arterial tension are prominent pathological conditions. Undoubtedly this physiological mode of treatment by mountain air is very decisive in character. It is certainly of the highest value in phthisis, and the profession will be ever grateful to two distinguished Fellows of this College for their successful advocacy of it—Dr. Hermann Weber, who brought forward its claims twenty-seven years ago, and who in his Croonian Lectures silenced the remnant of opposition to it, and Dr. Theodore Williams, who in his Lumleian Lectures adduced much valuable and telling testimony in its favour.[32]

VI. *Baths.*—Hot and cold baths, whether local (as hand baths) or general, produce contrary effects on the blood, the former lowering the percentage of the corpuscles and hæmoglobin and the latter raising them. The fall from a warm bath of fifteen minutes' duration may be 7 per cent., and the rise from a short immersion (three minutes) in cold water may be 4 per cent.[33] The alteration is merely a disturbance of the relation between the corpuscles and the plasma, for the blood-decimal remains unaffected. It would, therefore, seem that temperature, which is the predominant influence in bathing, alters the composition of the blood by retarding or accelerating the rapidity of fluid-transfer through the capillary wall, warmth slackening it and probably favouring the lodgment of tissue lymph and cold stimulating it. In all probability this influence is mainly exerted through the effect of warmth and cold on the intra-capillary pressure. These results confirm the observations of Winternitz and Kellogg[34] on the effect of warm and cold bathing on the blood. These observers refer the rise produced by cold bathing to general causes—increased activity of the heart and circulation, improved nerve tone, and the driving out of red corpuscles from the organs in which they had accumulated. The immediate effects of warm and cold bathing are, however, purely local.

VII. *Oxygen inhalation and ether anæsthesia.*—The inhalation of oxygen in rabbits produces, as a rule, a concurrent rise in the corpuscles and hæmoglobin. Probably this result

[29] Aero-therapeutics, by C. Theodore Williams, M.D. Oxon., p. 100.

[30] Probably the results of my observations at Davos Platz would have been still more pronounced had they been made in mid-winter, when the absolute moisture is much less than in May. I am indebted to the Cuverein of Davos for data showing that the average daily absolute moisture during the twenty-three days of observation was 5·03 mm. of Hg., whereas in the six months of last winter it was only 3·56.

[31] Op. cit.

[32] I must express my indebtedness to Mr. Waters, Dr. Buol, the Cuverein of Davos, and others, who greatly aided my inquiries at Davos.

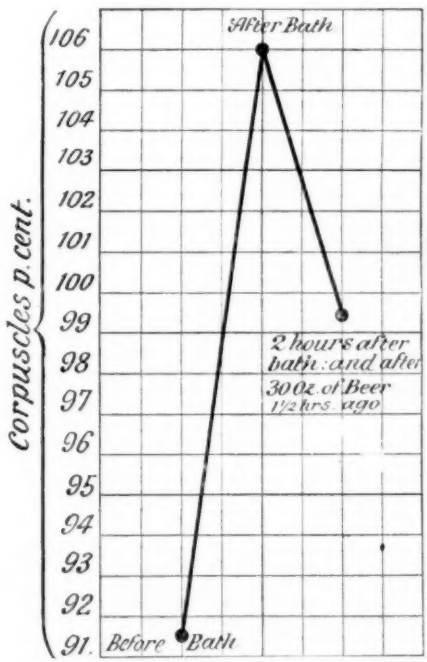
[33] Bristowe and Copeman have shown by enumeration that in paroxysmal hæmoglobinuria the number of the chromocytes is reduced by exposure to cold air, or to a cold bath, or by plunging the hands in cold water. (Transactions of the Medical Society of London, vol. xii.) This interesting result is, however, one thing and the effect of cold immersion in healthy subjects is quite another, for it is highly probable that in hæmoglobinuria the normal resistance of the stroma is greatly reduced.

[34] Modern Medical and Bacteriological World (quoted by Dr. Leith, THE LANCET, March 28th, 1896).

aris-es from the increased arterial and consequent intra-capillary pressure caused by oxygen (see Lecture I.) It having been stated during the past year that ether anæsthesia, particularly in anæmic subjects, produces a rapid and marked diminution of the hæmoglobin,[35] it seemed desirable to make some observations on animals in order to ascertain if the normal red corpuscle is effected by ether, especially as observations on the effects of anæsthetics on the blood made before, during, and after operations are unreliable, because these themselves, whether producing loss of blood or not, profoundly disturb the composition of the blood. In a series of six experiments on rabbits, in which eighteen observations were made during the profound ether anæsthesia of one hour, the average blood-decimal was 1·01 before and 0·98 during the administration. The corpuscles examined during the anæsthesia were normal in appearance. No obvious after-effects were observed. From this too limited number of observations it would seem that ether anæsthesia does not produce a very pronounced effect on the normal red corpuscles. But it should not be inferred that it will be equally harmless when the corpuscle is abnormal, as in anæmia. There is some ground for believing that the stroma varies in its resistance to the same chemical agent; for example, it has been observed that the corpuscles of different subjects vanish at different rates when mixed with the same solution of sodium chloride in the same proportion and exposed to the same temperature. Lately I met with a good instance of this fact in two rabbits, one normal and the other spleenless; after mixing 5 mm. of the blood of each with 995 c.mm. of solution of sodæ sulph. the corpuscles of the spleenless animal were found to have vanished within two hours, while those of the normal rabbit remained intact for several hours longer.[36] So that it is quite conceivable that ether may be comparatively harmless to the normal red corpuscle and may yet be distinctly injurious to the abnormal one. The effects of chloroform on the red corpuscle have not been sufficiently observed to warrant any statement of results.

VIII. *On variations in the plasma and the circulation of water.*—The preceding observations have shown, on the one hand, that the hæmoglobin value of the corpuscles rises with rest and falls with systemic exercise and work; and, on the other hand, that the corpuscles are continually varying in their relation to the plasma. Though this latter fact has been already amply illustrated it will, I think, repay a little further examination. The concurrent variations in the percentages of the corpuscles and hæmoglobin, which have been so repeatedly pointed out, are indeed volumetric indications of the circulation of water into, or from, the blood—into it from the digestive tract and the tissues and from it by the kidneys, skin, and lungs, and probably into the muscles during exercise. The blood is continually tending to balance its income and output of water and is thus always striving after a mean: but, notwithstanding this wonderful persistent adjustment, variations in the proportion of water present in the plasma are at the same time shown by these observations to be constantly taking place within certain physiological limits. It is true they are individually of comparatively short duration, but in this respect they resemble all the other oscillations of function which characterise health, such, for instance, as those described in the first lecture in connexion with the arteries. When, for example, the output of water, whether by the kidneys, skin, or bowels, temporarily exceeds the income, the volume of the plasma is for the time reduced and there is a proportionate rise in the corpuscles. Fig. 28 illustrates this temporary apoplasmia induced by a Turkish bath. All such transitory phases of concentration of the corpuscles can only be due to the shrinking of the plasma from loss of water.[37] But this question does not rest merely on examination of the blood derived from the finger. It has been conclusively proved by experiments on animals. Bizzozero, Golgi,[38] and others have observed that the intra-peritoneal injection of blood produces in from twenty to sixty minutes an enormous rise in the corpuscles, and Dr. William Hunter has shown that this result was merely due to concentration of the plasma (as shown by an equally pronounced rise of the specific gravity of the blood) caused by rapid effusion of serum into the peritoneum set up by the injection.[39] Professor Sherrington has likewise furnished equally conclusive evidence of the apoplasmic effect of operations and inflammations in animals. Inflammation was set up in a limb by immersing it in water at 52° C. for five minutes, and in the abdomen by applying to a knuckle of intestine sponges steeped in salt solution of the same temperature for five minutes. Taking the initial enumeration of the chromocytes

FIG. 28.



Percentages of corpuscles before and after a Turkish bath.

as 100, in the average results of all the experiments the maximum rise in the case of the abdomen amounted to 75 per cent. and in that of the limb to 35 per cent.[40] In some cases the duration of the apoplasmia was considerable, even five days. Sherrington and Copeman "have noticed that in the rabbit the operation of ligation of the vessels of the spleen and various other forms of experimental interference with the contents of the abdominal cavity, including even the simple opening of the cavity by an incision through the linea alba, are all followed by an increase in the specific gravity of the blood."[41] Such striking results as these suggest that some caution should be exercised in accepting any conclusions respecting the function of the spleen derived from observation of the blood during the first week after splenectomy. Clinical observation during last summer also indicated that persistent deviations are to be met with on one or the other side of the physiological mean percentage of the hæmocytes. For example, polycythæmia was frequently observed in chronic interstitial nephritis with high arterial tension, in diabetes mellitus, in chronic gout with increased arterial tension, and in those disposed to hæmorrhage (epistaxis, &c.).[42]

[35] The Blood Alterations in Ether Anæsthesia, by J. Chalmers Da Costa. Philadelphia Medical News, 1895, vol. i., p. 225.

[36] This hypoth of the enquiry remains to be explored. In this observation there may be a hint as to the lowered resistance of the stroma in paroxysmal hæmoglobinuria.

[37] Apoplasmia (as indicated by polycythæmia) from abstinence from food and fluid has been recorded by Hayem, Reyne, and others. It is rapidly induced, for abstinence for twenty-four hours in man determines a rise in corpuscles from 4 to 500,000 per c.mm., and the augmentation is said to continue in the guinea-pig and dog until death.

[38] Centralblatt fur die Medicinischen Wissenschaften, 1879, p. 917.

[39] Journal of Physiology, vol. xi.

[40] It has been pointed out that as a rule apoplasmia in man reduces "the worth." Out of the six protocols relating to these experimental inflammations of a limb and of the abdomen "the worth" fell decidedly in 4, slightly in 1, and was unchanged in 1.

[41] Proceedings of the Royal Society, vol. lv.

[42] At present I refer to this matter merely in general terms, for further observation is necessary to test these preliminary conclusions.

Lloyd Jones found that in arterio-sclerosis and in chronic interstitial nephritis the specific gravity of the blood was "highest in those in whom there is no œdema and in those who have cerebral hæmorrhage," and was "high in those who had had one attack of cerebral hæmorrhage and who are likely to have another."[43] Becquerel and Rodier (quoted by Lloyd Jones) found a high specific gravity and a great increase in the number of the corpuscles in twelve cases of cerebral hæmorrhage, and they add that the increase of the corpuscles "appear indeed to precede the cerebral hæmorrhage." In all such cases the persistent polycythæmia is, as a rule, associated with increased arterial tension and augmented elimination of water. It has been repeatedly observed that when the arterial tension is raised by any means, such as by small doses of suprarenal extract, by tonics generally, and even by mere change of air and scene and by recreation, the corpuscles will, as a rule, rise considerably; but it does not follow that the rise is necessarily and entirely due to the formation of chromocytes, for the major part of it probably arises from accelerated transfer of water from the blood as the result of increased intra-capillary pressure. Even in anæmia the blood may become apoplasmic. The pathogenic cause is not always obvious; it may, however, be frequently traced to a reduced ingestion of water and occasionally to the increased elimination of it probably under neurotic influence. In such cases the volume of the blood is obviously reduced, the percentage of the corpuscles is absolutely either normal or in excess, and that of the hæmoglobin—though it may be absolutely in excess—is always relatively subnormal, and improvement is indicated by a fall in the absolute percentages and a rise in the blood-decimal, as in the following example, in which the subject was a woman aged twenty-three:—

—	Date—1895.			
	Aug. 3rd.	Aug. 7th.	Aug. 19th.	Aug. 23rd.
Corpuscles	110	98	90	87
Hæmoglobin	105	96	91	96
Blood-decimal	0·954	0·98	1·01	1·09

In 1854 Becquerel and Rodier[44] described some cases of chlorosis in which the blood was not modified and was of higher specific gravity than normal; and Lloyd Jones alludes to similar cases—pale girls with a relative excess of corpuscles and a high specific gravity of blood.[45] On the other hand, the reduced elimination of water, as when the blood pressure is much diminished, tends to lower the percentages of the corpuscles and hæmoglobin. This fact is well illustrated by the recent very definite observations of Grawitz on the effects produced on the composition of the blood by loss of compensation and by the restoration of compensation. This observer shows that in the former condition the percentages of the corpuscles and of the dry residue of the blood and of the serum diminish, whereas when compensation is restored they again increase in proportion as the renal elimination of water is improved.[46]

In conclusion it is perhaps superfluous to point out that according to the data which have been advanced in these lectures it would seem that in health the composition of the blood varies quite as much as the calibre of the arteries, and that the variations in the former are largely influenced by the forces of the circulation; in a word, that the physiological relationship that subsists between the blood and the circulatory apparatus is as intimate as is the anatomical.

CORRIGENDA.—In Lecture III., on p. 1699, footnote 3, read *1896* for "1886"; on p. 1704, footnote 13, read *chlorid* for "chloras"; and in footnote 14, read *many* for "heavy."

[43] Journal of Physiology, vol. xii.
[44] Traité de Chimie Pathologique, Paris, 1854.
[45] Op. cit.
[46] Deutsche Archiv für Klinische Medicin, Band liv., p. 6.

CHICAGO EXHIBITION, 1893.—The medals and diplomas awarded to British exhibitors at Chicago have at length been issued to H. B. M. Ambassador at Washington, and have been transmitted by him to the Foreign Office. Sir Henry Trueman Wood has been requested by the Secretary of State to undertake the duty of distributing them, and this will be done at once, and all the exhibitors may expect to receive their medals within about a month from the present date.

The Ingleby Lectures

ON THE

MECHANISM OF BINOCULAR VISION AND THE CAUSES OF STRABISMUS.

Delivered at Mason College, Birmingham, on June 10th and 17th, 1896,

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LECTURE II.[1]

GENTLEMEN,—It is an interesting experiment to show to an intelligent student a case of ordinary convergent strabismus in a child and to ask for his idea as to the probable cause of the squint. If he is in his anatomical period he will probably suggest that something is wrong with one of the muscles; if rather more advanced he will usually suppose that a nerve is paralysed; unless he has studied the matter specially he will hardly guess that it is the motor centres which are acting wrongly or that the cause of their doing so lies very probably in the eyes themselves. If he does understand this and has thoroughly grasped the teaching of Donders that convergent strabismus is commonly a result of hypermetropia, he will be apt to retaliate with another question he will want to know why this particular child squints while many others, equally hypermetropic, do not; and to this his teacher may possibly find himself unable to give a satisfactory answer. The possible causes of strabismus are very numerous, for, as you will remember, the turning of the eyes towards a particular point, seemingly such a simple matter, is in reality a highly complex act. It demands: (1) that the object be pictured with sufficient clearness in both eyes; (2) that the pictures be transmitted properly to the visual centres and that these latter instruct the motor centres as to the impulses required; (3) that the motor centres issue these impulses and that the nerves convey them to the muscles; (4) that the muscles respond normally; and (5) that the eyes be free to move. This is a chain of many links and a fault at any point may spoil the result—i.e., may lead to strabismus. In considering the several kinds of fault which may occur it will be convenient to begin at the other end and work backwards.

A. Mechanical displacement of the eye or limitation of its movement by a tumour or an effusion in the orbit, or by an adhesion with the eyelid, will cause deviation when certain movements are attempted. We need not discuss these cases, their nature is generally obvious.

B. A fault in one or more of the muscles will do the same. Congenital malformation or absence of a muscle has been found in a few instances, but the condition is probably uncommon; it cannot be diagnosed with certainty during life. Damage by injury, generally a perforating wound, is more often met with. Some years ago I saw a young man who, in vaulting over a table, had caught his eye on a gas bracket, tearing the conjunctiva and tearing out a large part of the internal rectus muscle; a divergent strabismus was the result. In another and more unusual case a boy was struck between the eyeball and the upper margin of the orbit by a blunt arrow. There was no wound, but for some weeks there was double vision of the kind which generally indicates lesion of the fourth nerve. Here, no doubt, the tendon of the superior oblique, or the pulley through which it glides, had been bruised and temporarily thrown out of action.

C. Lesions of the motor nerves by disease or injury constitute a much more important group. The lesion may lie within the skull, in the sphenoidal fissure, or in the orbit; it may be primary in the nerve itself, or secondary to changes in the surrounding parts. Much might be said of the etiology of these paralytic deviations, but this would carry me beyond my present limits. I will ask your attention rather to the special phenomena

[1] Lecture I. was published in THE LANCET of June 20th, 1896.

which they present and to the methods by which we investigate them. The salient point is this: the deviation increases or diminishes according to the direction in which the patient attempts to look; it manifests itself chiefly during those movements in which the services of the paralysed muscle are chiefly required. If, for example, the right sixth nerve be injured the right external rectus will be partially or completely paralysed. When the patient desires to look to the right the conjugate centre which governs that movement (see Fig. 7, B, Lecture I.) will issue the customary bilateral impulse; this will be conveyed properly to the left eye, but will be weakened or arrested in its transit to the right. The left eye, therefore, will make the normal movement, while the right will remain still or will "lag behind" its fellow. On the other hand, when the patient desires to look to the left the services of the damaged nerve are not required, the bilateral impulse is carried normally to the two eyes, and they move in harmony. Observe, however, that the deviation does not always begin and end at the median line; the loss of tonicity in the paralysed muscle gives its antagonist a preponderance and the eye is drawn somewhat to one side even when the fellow eye is directed straight forwards. On the other hand, when the paralysis is slight the deviation may manifest itself only when the patient tries to look much towards the affected side. The difference in the movement of the two eyes in paralytic strabismus may be expressed by a diagram. Here is a case of paralysis of the right external rectus (Fig. 11).

FIG. 11.

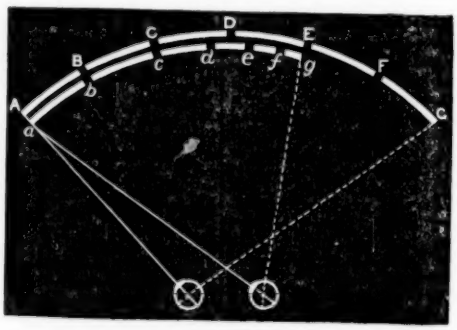

Diagram showing unequal movements of the two eyes in paralysis of the right external rectus.

The arc A G represents the excursion in the horizontal plane which the two eyes ought to make in harmony; *a g* is the excursion which the right eye actually makes while the left travels from A to G. For a certain distance—namely, from A to C—the two eyes move harmoniously; then the paralysed eye begins to lag behind; it reaches only to *d* when it ought to reach to D; to *e* when it ought to reach to E. The distances *d* D, *e* E, and so on, represent the amount of its deviation at each part of the journey. In examining such cases it is necessary to remember that the deviating eye is not always the paralysed eye. If the paralysed eye happen to have much better vision than its fellow the patient will strive to make it follow the object in spite of the paralysis; the strong impulse will be sent equally to the non-paralysed eye and will cause this to deviate, not to lag behind but to shoot ahead of the paralysed eye, and the deviation will be greater than in the former case. For example (Fig. 11), the strongest effort of which the conjugate centre is capable will enable the paralysed eye to follow the object to the point *g*, and will simultaneously carry the non-paralysed eye to the point G; the deviation is now *g* G. If the patient had followed the object with the non-paralysed eye to the same point, say E, the paralysed eye would have lagged behind at *e*; the deviation would then have been only *e* E. In many cases of paralytic deviation the lagging of the eye is too slight to be easily seen; in any case, mere inspection is a very uncertain method of testing it; fortunately we have a better. The double vision which is commonly present affords a precise test. The deviating eye sees the object in a false position—it sees a false image; the position of the false image will tell us the direction and the amount of the deviation if we bear in mind that the false image and the cornea deviate equally and in opposite directions. We judge of the position of an object from the positions of its pictures on the retinæ, and when either retina is displaced without our knowledge, i.e., otherwise than by an effort of the will, our judgment is by so much led astray. For example, when the cornea is displaced inwards the picture which should fall on the macula is displaced to a part of the retina which corresponds, when the eye is straight, to an object situated outwards; the patient judges as though the eye were still straight (see Fig. 10, Lecture I.), and therefore sees the object displaced outwards. Hence in double vision the positions of the two images will tell us the positions of the two eyes, provided we know which image belongs to which eye. This is readily determined. Using a strip of white paper as the object to be looked at, we place a disc of red glass before one eye; the patient now sees one white image and one red, and the red image belongs of course to the "red eye." Moreover, the varying distance between the two images as the eyes move will tell us in which direction the deviation increases, in which it diminishes or disappears. Diplopia, therefore, is a very delicate index of deviation. Here is a working formula which applies to all cases, to mechanical displacement as well as to paralytic deviation:—1. Ascertain in which direction the images stand furthest apart: the inefficient muscle is one of those which normally turn the eyes in this direction. 2. Ascertain which image belongs to which eye: the inefficient muscle belongs to the eye whose image stands furthest in the said direction.

This formula saves both time and mental effort in the press of practical work, but it must be confessed that there are a good many cases, especially where the lesion is complex or where it is old and has led to secondary changes in the muscles, in which the most careful examination will leave us in doubt. I must remind you also that these paralytic deviations are not always accompanied by double vision, for one eye may have little or no sight, or the patient may have learned to disregard or suppress the impression which it receives. Lastly, it must be remembered that there is such a thing as double vision with a single eye, usually from defects in the refracting media, possibly in some cases from psychical disturbance. We must not assume that a patient who sees double has a deviation of the eye until we have made certain that one image belongs to one eye and the other to the other. The other disturbances which paralytic deviations often cause I can merely mention in passing: they are giddiness due to seeing objects in a false position, an altered carriage of the head, whereby the patient contrives to minimise the demands made on the paralysed muscle, and closure of one eye, by which he avoids the double vision altogether.

D. Lesions of the motor centres, unless confined to the primary nuclei of the nerves, cause paralytic deviations of bilateral type. The loss of movement is common to the two eyes. Conjugate deviation of both eyes to the right or left is the best known form; it is frequently associated with hemiplegia, the same lesion causing both. When the lesion is in the cerebrum the limbs of the opposite side are paralysed and the eyes cannot be turned towards the paralysed side; they are drawn over towards the other side by the unopposed action of the other conjugate centre. When the lesion is in the cerebellum the limbs of the same side are paralysed and the eyes are unable, as in the former case, to look towards the paralysed side. When it is in the pons the eyes are turned towards the paralysed side. Another form of bilateral deviation due to central lesion is paralysis of convergence. There is a constant divergence of the eyes which the patient cannot diminish, yet the internal as well as the external recti remain active for conjugate movements to either side. Paralysis of convergence is apt to be associated with loss of accommodation, of contraction of the pupils, and of downward movement, for the several impulses which produce these movements arise from closely adjacent parts of the brain. Paralysis of divergence is the counterpart of this and is apt to be combined with loss of upward movement. In cases of this class, you will observe, certain muscles are at one moment powerless and at another active, according to the nature of the movement attempted.

E. Faulty control of the motor centres.—The great majority of all the cases of strabismus which we meet with, especially of those arising in early life, depend, not on faults or lesions in the motor apparatus itself, but on extraneous causes which impair its action. The commonest forms are frequently associated with errors of refraction, convergent strabismus

with hypermetropia, divergent with myopia. Before discussing other causes let us consider the influence of these conditions. When we look from a distant to a near point our eyes undergo three changes: the ciliary muscles contract so as to accommodate each eye for the near point, the pupils contract, and the internal recti contract so as to converge the eyes for the point in question. These three changes are always wanted simultaneously, and the centres which govern them are therefore placed close together in the brain, so that they may act, as it were, by a common impulse, and the centres on the two sides are closely united, so that the impulses may be strictly bilateral—i.e., issued with equal force to the two eyes. The habit of using these impulses together makes it difficult to use them separately; thus it is difficult to accommodate without converging or to converge without accommodation. This is easily demonstrated. While looking at a point, say, at three feet distance I place concave glasses before my eyes. Now, if I am still to see the object clearly I must accommodate more strongly than before in order to neutralise the effect of the glasses, but I must not converge more or I shall see the object double. This is difficult and would soon become painful, for I have to resist a strong tendency to increase my convergence. If I cover one eye with the hand so as to exclude it from the act of binocular vision it at once squints inwards—a proof that it was previously kept straight with difficulty. On the other hand, if while looking at a near point, say at twelve inches, I place convex glasses before my eyes I must relax my accommodation without altering the convergence, which, again, is difficult, if not impossible. These difficulties, here induced artificially by means of glasses, are naturally present, more or less, in hypermetropia and myopia. As compared with the emmetrope, or normal-sighted person, the hypermetrope is obliged to make an extra effort of accommodation; he therefore tends to converge too much—to squint inwards. The myope, on the other hand, for near objects, must accommodate less than the emmetrope, and therefore tends to converge too little—to squint outwards. The squinter, of course, does not allow both eyes to deviate either inwards or outwards, but turns both to the right or to the left by means of one of the conjugate centres, so as to correct the deviation of the one and double that of the other. The squinting eye, therefore, owes one-half of its displacement to the excess or deficiency of convergence, the other half to the conjugate movement which keeps the fellow eye straight. The fundamental ideas in this explanation of strabismus we owe to Donders. He taught us the relationship of accommodation to convergence, the nature of hypermetropia, and its connexion with convergent strabismus, and in doing this he raised a whole department of ophthalmology to a high scientific level, and conferred immense benefit on the legions of hypermetropes, who are always with us. Since his great work appeared convergent strabismus has been cured in many cases every year by the use of glasses, and this fact is a sufficient reply to those writers, few in number, who still deny the essential truth of his teaching. Still, that teaching does not cover the whole ground. Some squinters have no hypermetropia; many hypermetropes have no squint, and no tendency to squint even when one eye is covered. In hypermetropia normal convergence is the rule and squint the exception. We have then to ask, How does the average hypermetrope manage to combine an extra effort of accommodation with a normal effort of convergence, whereas you and I, trying the experiment with glasses, find it impossible to do so? The average hypermetrope learns from the cradle upwards to regulate his eye-impulses according to the special requirements of his eyes. He trains his motor centres to a different partnership from that which is present in the emmetrope. He teaches the convergent centre to act moderately while the accommodative centre acts strongly. Now, this education, this purposive control of coördinated movements, depends on the higher cortical centres. We may say, therefore, that when hypermetropia leads to strabismus the control centres have failed in their duty.

Conditions which impair the control of the eyes.—Anything which spoils the retinal picture in either eye renders the blending of the two pictures comparatively valueless and is likely to lead to strabismus. Even in the adult who for half a lifetime has used the two eyes together a loss of vision in either eye may cause it to deviate. He no longer takes the trouble to maintain a particular degree of convergence, but allows the useless eye to assume the position which involves least effort. It may remain properly directed, or it may deviate in a purposeless fashion inwards, outwards, or in any other direction, according to its anatomical connexions and the various nerve impulses which still act upon it.[2] The young child under similar circumstances has a still greater tendency to squint, for his eyes have had but little training in harmonious action. Thus, corneal opacities following purulent ophthalmia or phlyctenular ulcer, opacities in the deeper media and disorders of the retina, choroid, and optic nerve are frequent causes of strabismus in early life. We cannot always exclude such causes, even though we fail to discover them a few years later. The hæmorrhages in the vitreous or retina which are sometimes present in the new-born child after long and difficult labour, the changes in the retina or optic nerve which occur during whooping-cough and other acute disorders, even the occlusion of one eye with a bandage during the early months of life, may probably sometimes suffice to check the development of the visual apparatus during its period of most rapid growth and thus to lead to strabismus. Such cases when examined some years later might show no obvious defect in the squinting eye. Again, a great difference in the refraction of the two eyes, especially a high degree of astigmatism in one, will prevent the fusion of the two retinal pictures. The controlling influence may be suspended in other ways than through the absence of good retinal pictures. The mother will often tell us that her child's squint began after a fright, after a fall, during a fever, or at the time of teething; not very seldom there are worms in the intestine; we frequently see that the squint comes on when the child is startled, poorly, or nervous, and disappears or nearly so when he is in vigorous condition; in some cases the inability to exercise the necessary control is distinctly hereditary. Since Donders threw a new light on the causation of strabismus, we have been apt, I think, to treat such points as these with scant attention, especially when we find a few dioptres of hypermetropia in the eyes; but in all conditions of this kind the higher brain powers are more or less disturbed, and just as the hand is apt to become unsteady or the tongue to stammer when its owner is "nervous," so under similar circumstances the eyes are likely to escape from the necessary control. Let me give you a single example of the production of strabismus by fright. A girl who up to eight years of age was healthy and free from eye-trouble was shut up for punishment in a dark room by a well-meaning but misguided relative. The child was utterly terrified and climbed out of her prison through a small window at risk of life and limb. From that time she seemed changed in character, became liable to faint, and had frequent strabismus. To summarise the matter: in infancy the control of the cerebral coördinations is less complete and less stable than in later years, hence the child is more liable than the man to lose it under trivial or temporary difficulties, either ocular or cerebral. In presence of hypermetropia an extra effort of control is needed, hence the hypermetropic child is more liable than others to acquire strabismus. With his first lapse into strabismus the child enters on a vicious circle in which cause and effect are apt to perpetuate each other. He quickly learns to disregard the picture belonging to the deviating eye, and having done so makes no further effort to combine it with that of the fellow eye. The loss of binocular vision then confirms the squint. If it become habitual before the child's visual perceptions are fully developed he is likely to be amblyopic in the squinting eye throughout life. Thus amblyopia is often a consequence as well as a cause of squint. Secondary changes in the muscles and other tissues around the deviating eye occur in course of time and confirm the displacement which originally caused them.

Myopia as a cause of strabismus is not quite the counterpart of hypermetropia, for high myopia is rarely present in the young child. In early life the future myope learns the ordinary association of convergence with accommodation; later, as his myopia develops, he gradually unlearns it and learns to converge without accommodating, but he rarely unlearns completely. The majority of myopes show some outward deviation when one eye is covered, and in a few cases of high myopia this leads to actual divergent strabismus, especially when vision in one eye becomes defective. On the other hand, a few highly myopic persons do succeed in keeping the divergent impulse entirely in abeyance, and, indeed, acquire the habit of persistent convergence for short distances: it is only at short distances that they see well,

[2] See Hansen Grut's Bowman Lecture. Transactions of the Ophthalmological Society of the United Kingdom, 1890, p. 1.

and they make no effort to obtain binocular vision of distant objects, hence the apparent paradox that concave glasses tend to correct convergent strabismus in such persons. The exceptional occurrence of high myopia in infancy would seem to predispose to convergent strabismus, for the child who never sees distant objects properly is likely to take no trouble to acquire binocular vision except for short distances. Other auxiliary causes and various atypical forms of strabismus might be mentioned, but time forbids. I will conclude by dealing very briefly with a few of the practical questions which often arise in connexion with the common strabismus of childhood.

Does the child squint?—The family is divided in opinion; the medical man is asked to decide. We cannot test a very young child, as we should an older patient, by covering each eye separately while he looks steadily at a distant object, but we may do it with the ophthalmoscope, for a child aged two years or less will look readily at the bright mirror if care is taken not to startle him. The observer standing about

FIG. 12.

Asymmetrical position of the corneal reflexes, showing inward deviation of the left eye.

two feet away throws the light first on one eye, then on the other, and notes the position of the corneal reflex in each—i.e., the minute bright reflection of the mirror, which in normal eyes is usually seen just to the inner side of the centre of the pupil. If the corneal reflexes are symmetrically placed in the two eyes there is no strabismus, at least at that moment; asymmetry, on the other hand, shows deviation of one eye and tells us its direction (Fig. 12). A false appearance of strabismus in a young child is usually due to the condition known as epicanthus, a redundant fold of skin hiding the inner angle of the eye (Fig. 13). A squint which

FIG. 13.

Symmetrical position of the corneal reflexes, showing absence of deviation in a case of epicanthus simulating convergent strabismus.

is latent will usually manifest itself when one eye is covered, especially if the child be caused to look at an object placed six or eight inches from his eyes.

At what age should a squint be treated?—The child should be examined with regard to the cause of the squint as early as possible. Before discussing treatment we want to know (1) whether the squint is paralytic or concomitant, in other words, whether the two eyes move unequally or equally when the child looks in different directions; (2) whether the squinting eye is able or unable to "fix" the object when the fellow eye is covered; (3) whether it presents in its own structure any visible cause of defective vision, such as opacity of the media or disease of the fundus; (4) whether the onset of the squint was connected with any obvious disturbance of the nervous system; (5) whether it is always in the same eye or alternates between the two; and (6) lastly, in every case we want to know the refraction of both eyes—this, with the help of atropine and the shadow-test, can be determined even in the youngest child—and, if the child be old enough, the acuteness of vision in each eye when the refractive error is corrected. These data being obtained so far as may be possible we are in a position to speak of treatment and the future probabilities.

Will glasses cure the squint?—If there be a considerable hypermetropia in the straight eye glasses will probably diminish the deviation, whatever be the condition of the deviating eye; but if this latter fail to right itself when the fellow eye is covered they will not effect a real cure. The more promising cases are those in which the squint alternates between the two eyes, the most promising being those in which it appears and disappears periodically; in a case of this kind, if we find that atropine banishes it entirely for the time being we may be almost sure that glasses will remove it permanently. But the glasses must be correct, neutralising astigmatism as well as hypermetropia in both eyes. They must "fit," so that the child looks through them and not over them, and they must be worn constantly from morning till night. Failure frequently depends on lack of perseverance. The parents want a speedy cure and, not getting it, they allow the child to lay aside the glasses after a few weeks or months or fail to renew them when he breaks them. Sometimes they complain illogically that "the glasses do no good, for the squint returns the moment they are taken off." In reality this is the strongest proof of their value. But we must not expect too much from glasses; they can lessen the excess of convergence and they can sharpen the retinal pictures, but they cannot create the visual perceptions and motor impulses which are essential to the acquirement of binocular vision.

What else can be done?—The squinting eye, or rather the perceptions and impulses which ought to control its movements, can, to some extent at least, be educated. The process will be difficult or impossible, according to the duration of the previous neglect. The patient must be taught first to perceive the impressions belonging to the squinting eye; then to perceive them simultaneously with those of the fellow eye—i.e., to see double; next to make the effort which is necessary to unite the double images; and, lastly, to form those judgments of distance and perspective which perfect binocular vision gives. Cures, absolutely complete in this last respect, as proved by Hering's drop test (see Fig. 9, Lecture I.), are rare but not unknown. For this process of teaching several means are at our disposal. We may cause the patient to use the squinting eye exclusively by covering the other; we may induce him to give it the preference when both are open by partially disabling the other with atropine; we may teach him to notice both pictures simultaneously and ultimately to blend them by means of persistent practice with the stereoscope,[3] differentiating them at first by different coloured glasses and approximating them by prisms; and we may facilitate the process at any stage by bringing the eye into better position by means of tenotomy.

When is it best to operate?—No operation should be done until the nature of the squint has been thoroughly investigated and until efforts have been made to minimise the deviation and to sharpen the visual perceptions by glasses and by regulated practice. When these measures are inapplicable or have ceased to give progressive benefit operation is in place and is hardly contra-indicated by age in either direction. But the younger the child the more important it is to do too little rather than too much. Full correction of a squint by tenotomy in very early life may give over-correction later. Partial correction by the first tenotomy, then an interval with regulated exercise, and then a similar tenotomy on the fellow eye in case of need are better practice. Confirmed strabismus often diminishes in degree as time goes on, hence the too common idea that time alone will often cure a squint, and the advice, not seldom given, to "wait and see." For the squinting eye this too often means waiting and not seeing. Time alone may lessen the disfigurement, but will not remove the disability. Binocular vision is not recovered in this way.

[3] See Javal on Binocular Vision in relation to Strabismus. Abstract in Ophthalmic Review, vol. xi., 1892, p. 288.

THE LEICESTER BACTERIOLOGICAL INSTITUTE.—During the Royal Agricultural Show at Leicester, at Stand No. 431, the Leicester Bacteriological Institute have given to agriculturists and dairy farmers demonstrations by means of microscopes of the various pathogenic organisms common to animal and man—tubercle, anthrax, tetanus, erysipelas, actinomycosis, swine fever, typhoid fever, pleuro-pneumonia, diphtheria, &c., and also exhibited cultivations on various media of the different micro-organisms; photographs of the different micro-organisms and their mode of growth; sections of organs containing bacilli; micro-organisms in food—meat, milk, and water; drawings; pamphlets of explanation; exhibition of the antitoxic serums, including antitoxins for diphtheria, tetanus, erysipelas, rabies, typhoid fever, &c.; tuberculin and mallein and their mode of use.

THE PRACTICAL APPLICATION OF "X" RAYS TO SURGERY AND SURGICAL TEACHING.

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(Continued from p. 1717.)

2. To General Bone Surgery.

ITS application to general bone surgery, I wish first to say, is not chiefly from the diagnostician's point of view. I have not photographed a single case where the diagnosis was materially altered by the process, but in confirming a diagnosis and in finding out the exact extent of an injury it is of greater value. First in importance comes the photographing of fractures to ascertain the extent of the injury especially, the amount of comminution and splitting longitudinally of a bone being necessarily almost impossible to determine unless post mortem. A skiagraph was taken in the ward, the patient not being disturbed and the splint and dressings being untouched; his leg also had extension applied which was not removed. I might mention here that the noise caused by the induction coil, sparking, and contact breaker is not sufficient to materially disturb patients, and on occasions when I have had to use it at night most of the other patients slept on through it. In this case the exposure given was seven minutes. The notes of the case are as follows.

A man aged forty-four years was admitted into King's College Hospital, having fallen from a ladder into the pit of a theatre. He was found to have a compound comminuted fracture of the tibia and fibula and a simple fracture of the femur on the same side. The lower fractures were explored, some loose portions of bone removed, and a wire placed round the tibia. The photograph taken on May 11th, five weeks after the accident, shows longitudinal splitting of both bones with a large amount of comminution and also that the early callus is very transparent to these rays and so does not show. The skiagraph of the femur with eight and a half minutes' exposure shows an unusual condition of impaction of the shaft of the bone at the junction of its upper and middle thirds, the upper part being split into two pieces, enclosing the conical-shaped upper end of the lower fragment. This condition could not have been diagnosed without this method, and helps in the prognosis of the case, especially as regards the probable shortening.

Again, the process can be used to photograph through water-glass, enabling the surgeon to watch the progress of a case treated by this method; thus Fig. 3 is taken with a six and a half minutes' exposure, which is longer than it ought to have been owing to the patient having a bad cough, it being necessary to stop the instrument for at least one and a half minutes owing to two or three attacks of coughing; the patient kept his arm fairly still during the attacks and it came back to the original position. The man in question was forty-four years old; he met with an accident in July, 1894, and broke his right radius. In June, 1895, the fracture being still ununited, a piece was taken out of the ulna and both were wired, as seen in the illustration, showing that there is still no osseous union between the bones. The other applications of the process are also numerous, as, for instance, in injuries about the elbow-joint, which are often obscure; many of them can be fully comprehended by means of the cryptoscope or from the skiagraphs. Also in deformities it may be found useful; for instance, in finding the exact position of an abnormal curve of a femur or the absence or presence of a metatarsal or metacarpal bone with congenital deformities of hands or feet.

It would be profitable to ascertain the value, if any, of this work in tuberculous and malignant disease of bones or joints; at present I am not in a position to give any definite opinion on these subjects. I am sure that two important items for all this class of work are (1) the short exposures, which, though necessarily often not producing very dense negatives, nevertheless show the surgeon what he wants to know, and (2) the use at the bedside so as not to move or disturb the patient. I may add that I am at present in favour, for clinical purposes, of skiagraphs in preference to the cryptoscope. I next give a few examples of this work as applied to teaching purposes.

3. Application to Teaching Purposes.

I now come to the part of this subject that at present seems to have been kept more or less in the background, but which, I think, will be a very important addition to the medical schools—namely the application of skiagraphy to teaching—and I will endeavour to give a few examples where this process may materially assist the teacher in his often difficult task, and the student in his endeavours to grasp the "whys and wherefores."

A. Osteology.—Firstly the process can be applied to the study of osteology—e.g., the method of growth of bones with the epiphyses, their positions, their appearance at different ages, and, lastly, their date of union to the diaphysis. For instance, in a skiagraph of the hand and wrist the epiphyses of the phalanges and metacarpals are easily demonstrated and one glance shows clearly to the student their position and difference between the metacarpal of the thumb and those of the fingers; also the date of appearance of the epiphysis of the lower end of the radius is shown—I should say the

FIG. 3.

Reproduction of photograph of fractured radius and ulna showing no union and wires which had been put in. Exposure six and a half minutes.

commencement of ossification rather than the appearance of the epiphysis, as mere cartilage is not opaque to these rays and only leaves a space on the plate, whereas when ossification has commenced, a shadow is thrown on the negative This is well shown in two skiagraphs: one is of a boy aged four and a half years, where the epiphysis is seen only as a space, whilst in the other, taken at the age of five and a half years, it is seen as a definite opacity. Similarly the method of union of the epiphyses of the upper end of the humerus can be determined and demonstrated. In a skiagraph of a knee of a boy aged twelve years taken antero-posteriorly with an exposure of six minutes, the epiphyses round the joint are very obvious. These points of course to many appear easy enough to understand, but the student commencing his studies will grasp facts much more readily with a skiagraph before him than by means of post-mortem specimens (which so often get damaged) or diagrams.

B. Surgery.—Now, with regard to surgical teaching there are very many points of interest. The above-mentioned skiagraph of the knee-joint enables the teacher to point out to the student the importance of remembering the position

of these epiphyses and the line of cartilage from which the bones grow when the operation of excision of the knee is about to be performed, and to emphasise the supreme importance of not injuring the cartilage, as if it is damaged more shortening must occur, and this point is one which is made of importance at examinations. The skiagraphs of the two wrists of a patient taken in the dorso-palmar position with an exposure of four minutes, illustrations of which are reproduced (Figs. 4 and 5), and the fellows of them taken in the radio-ulnar position with six minutes' exposure, demonstrate to the student: (*a*) the position of a Colles' fracture; (*b*) the clinical evidences of it; and (*c*) the cau ation of the deformity. Thus is rendered clear the position of the corresponding styloid processes—the prominence on the dorsal surface being produced by the backward and upward displacement of the lower fragment, whereas that on the palmar surface is due to the lower end of the upper fragment: the rotation of the lower fragment on its antero-posterior axis and consequent abduction of the

FIG. 4.

Skiagraph of a Colles' fracture. The line of fracture appears across the lower end of the radius.

hand and prominence of the styloid process of the ulna; and the rotation of the lower fragment on its transverse axis with resulting extension of the hand at the wrist-joint. These point out well the use of taking skiagraphs of the normal as well as the abnormal side for comparison. In many cases, and especially for permanent records or for teaching purposes when the cases themselves are not available to be shown to the student, great assistance could be got by comparing the ordinary photograph with the skiagraph, thus pointing out the effect seen in the former with the cause as shown in the latter. Again, in cases of difficult physical signs—as, for instance, a bad comminuted fracture of the head of the tibia where, except to the experienced eye and hand of the surgeon, the question of injury to the lower end of the femur is not easily excluded—the student may be greatly assisted by the skiagraph, and thus be enabled to grasp the meaning of the clinical evidences presented by the patient, which, without it, appeared uncertain and indefinite. Another and last instance is that afforded by the examination of joints after an operation has been performed upon them, especially hips and elbows after excision. Here there is often much difficulty in explaining the final condition of the joints, and the skiagraphs will greatly aid the teacher and the student. I have before me two skiagraphs of the hip-joints of a boy aged fifteen years, taken when the patient was in bed in the ward as described before with exposure of ten minutes, the one is normal, showing the epiphyses of the head and great trochanter; and the other one is after excision had been performed for tuberculous disease; here the upward and backward displacement of the rest of the femur and the absence of the head and neck are easily shown to the student. Likewise, with an elbow after excision for similar disease and the resulting almost perfect movement, the resulting false joint is easily compared with a normal one and shown.

I wish to add one point, although it has no direct bearing upon the previous points I have tried to draw attention to, and that is, that people who have a tendency towards bringing

FIG. 5.

A normal wrist-joint, for comparison with Fig. 4.

actions against medical men for unskilful treatment will be tempted to use this method as evidence in their favour. But fortunately this may show the opposite; as in more than one case of mine the trouble has either been shown to be due to something else altogether or to adhesions remaining in a joint after the injury.

I wish to express my great indebtedness to Mr. W. H. Sodeau, B. Sc. Lond., for his valuable assistance, and for many practical suggestions which he has made from the time I commenced to experiment, and to Mr. Herbert Jackson, of King's College, for having not only given me much advice but for lending me some tubes to start my work without which I should not have been able to begin until much later; and also I have to thank Mr. W. Watson Cheyne for having allowed me to publish so many of his cases. I have also to thank the staff at King's College for their help, and especially Mr. William Rose for letting me use his case of Colles' fracture in the way I have above.

SHOULD A HEALTHY MOTHER SUCKLE HER CONGENITALLY SYPHILITIC CHILD?

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IT is a matter of much gratification to me to find myself on nearly all points in accordance with the views expressed by Dr. Coutts in his Hunterian lectures on Infantile Syphilis. Everyone, indeed, must be indebted to him for having put an end to a good deal of dogmatic teaching, by subjecting those points about which there is, or has been, controversy to sound criticism based upon a careful and minute study of facts, and his lectures mark a step forward in our knowledge of the subject. Dr. Coutts considers the question whether there are exceptions to Colles' law as settled in the affirmative, but he does not think that "such eminently infrequent occurrences ought to largely modify our practice in allowing apparently healthy mothers to suckle tainted infants," and he adds: "Following in the same path as Henoch, the only limitations I would place on suckling by mother or wet nurse would be the presence of excoriations on her nipple and that of ulceration or fissures about the mouth of the infected infant." With reference to this, it appears to me that it is neither safe nor proper to adopt such a rule of practice.

That the infection of a wet nurse by a tainted child, whether the nurse be or be not its mother, is a possibility has been established. Dr. Coutts shows from the statistics of the Shadwell Hospital that the frequency of the occurrence of the infection of wet nurses has probably been much exaggerated, but still the thing occurs, and it has to be accepted as a fact that a healthy woman, whether she be the child's mother or not, may contract syphilis by suckling a congenitally syphilitic child. The position which I venture to take up is that it is not right to expose a woman to that risk, even though Henoch's precautions are taken. Of course, if the tainted child's mother enjoys a certain amount of immunity which is not enjoyed by a wet nurse who is not its mother, it would be safer for the mother to suckle the child than for such unrelated wet nurse, but infection may come to either, and the question is whether Henoch's precautions give such a security as to justify our running the risk. In my opinion they do not give such a security. It does not seem to me that it would be sufficient to examine the nurse's nipple and the child's mouth before allowing the child to suck. The nipple and mouth would require to be kept under observation, and Henoch's rule does not say how the practitioner is to act in the event of lesions of the nipple or mouth appearing during the suckling, say weeks or months after it has commenced. But in addition to this, the lesion of the mouth or nipple may be so small as to escape detection and yet be sufficient to allow of infection. It therefore appears to me that the rule for the practitioner ought to be to prevent the risks to a healthy wet nurse from suckling a congenitally syphilitic child, by not giving his sanction to such suckling. I have elsewhere pointed out that under very exceptional circumstances a particular case may offer itself, in which deviation from this rule is perhaps justifiable, but, in my opinion, no fault can be found to that practice which never makes an exception and never allows a healthy woman to suckle a tainted child. Since the law of Colles is proved to have exceptions, this prohibition should apply to nurses who are mothers as well as to other nurses; indeed, the practical dealing with mothers should be the same as that in regard to hired wet nurses if protection is to be always secured. It may of course be said that it will be injurious to syphilitic children as to children generally, not to derive their nourishment from woman's milk—that of mothers or of other women—and I cannot say that this may not be true. But in this conflict of interests, I believe that few will think of deciding in favour of the child. There may be some disadvantage to the child from artificial feeding, but this may be easily overrated. In some of the large Russian institutions a large number of children suffering from congenital syphilis have quite recently been brought up entirely on the bottle with completely satisfactory results. I do not desire the extermination of the tainted or weakly, but it seems to me that I am right in regarding the health and life of the mother of a tainted child, or of its hired wet-nurse, as of higher value than the health and life of the child itself. Most of us perhaps go as far as Fournier does when he says: "For an infant born of a syphilitic father and mother there are but three alternatives: (1) Either it dies before birth, and that is undoubtedly the best thing that can happen to it; (2) or it will be born at the full time the subject of syphilis; (3) or it will survive with compromised health and exposed to all *les alternatives de la maladie*." I have a difficulty, in short, in regarding it as warrantable to expose a healthy mother or a healthy hired wet-nurse—perhaps destined to have other children—to the least risk of sustaining a serious injury, on the chance of bettering a life already seriously damaged. It will be seen from what I have written that I go further than Dr. Coutts, and cannot accept Henoch's precautions as sufficient not only as regards hired wet-nurses, but also as regards mothers, since Colles' law has been shown to have exceptions, though we do not yet know much as to the frequency or infrequency of such exceptions. In other words, I desire to take a safe course in the interests both of maternal and non maternal wet-nurses.

Mr. Hutchinson does not appear to regard the precaution, which is recommended by Henoch and adopted by Dr. Coutts as necessary; at least, so far as I know, he does not indicate that he takes the precaution, and with his views it is scarcely seen that he would have any sufficient reason for doing so. He has "expected" the occurrence of exceptions to the law of Colles, and, indeed, admits that they have occurred, but he does not think we should "allow these extremely few exceptional cases to interfere with our general rule of permitting mothers (of tainted children) to nurse their infants."[1]

Before the discussion in January last at the Royal Medical and Chirurgical Society, I was not aware that Mr. Hutchinson did admit the actual occurrence of any exceptions. Indeed, he had previously expressed himself often and strongly in the opposite sense, as, for instance, when he says: "I am not aware that a single exception has been recorded;"[2] and again, "if there is on record a single case in which the mother of a syphilitic infant is proved to have contracted a chancre from her own child it has escaped my reading."[3] and again at a later date, "since Colles' day no exceptions to his law have I think been put on record which are worthy of trust."[4] But Mr. Hutchinson though he has never seen an exception, now admits the occurrence of exceptions, and says that it is reasonable to expect them. Notwithstanding this, however, he is of opinion that we "may continue" to "encourage mothers of syphilitic children to nurse the children themselves, not giving them, indeed, an assurance of positive immunity but telling them that for all practical purposes they are safe."[5] His reason—his only reason, so far as I know—is that it would be a pity if, by not allowing mothers to suckle such children, we condemned the children, "to the additional risk of life entailed by their not being nursed by the mother."[6] I am not able to see that this is a proper and justifiable practice. In my opinion Mr. Hutchinson exaggerates the risk to the child. For infinitely weaker causes than their possible protection from syphilis mothers are often allowed and advised to bring up their children by hand, and without a thought that this involves any important risk to the life of the children. Whenever it is shown that Colles' law is not a law which has no exceptions—and this I believe to have been clearly shown—it seems to me that no mother should be exposed to the risk of contracting a chancre by nursing her syphilitic child.

The rule as regards mothers should in my opinion be exactly the same as that regarding unrelated wet nurses. The first are probably in less danger than the last, but they have been now shown to be in some danger, and that danger ought not to be run. If the actual occurrence of exceptions had not been established, and if their occurrence were still only a reasonable expectation, it seems to me but right to the mother to protect her in every possible way from all risk. Even Mr. Hutchinson holds the mother of a child by a syphilitic father only to be rendered "in

[1] Proceedings of the Royal Medical and Chirurgical Society, Third Series, vol. viii., p. 107.
[2] Transactions of the Pathological Society, 1878, p. 460.
[3] Medical Times and Gazette, vol. ii., 1876, p. 644.
[4] Syphilis, p. 91, 1893.
[5] Proceedings of the Royal Medical and Chirurgical Society, Third Series, vol. viii., p. 108.
[6] Ibid. p. 108.

some degree insusceptible to syphilis" and to have become "as a usual thing" "immune towards syphilis in a certain sense."[7] It matters nothing as I see it, and changes nothing, to regard a mother who gets a chancre from her syphilitic child as getting a second attack or a second infection of syphilis, which seems to be Mr. Hutchinson's view, that is, if I understand him correctly. A woman receives from vaccination something which renders her different from an unvaccinated person in respect of exposure to infection from small-pox—just as carrying a syphilitic fœtus does to the woman who carries it in regard to infection from syphilis—but I do not suppose that any one would advise a vaccinated woman to put herself unnecessarily in the way of being infected with small-pox, nor would we, if she did expose herself and became infected, call it a "second attack" or "second infection." I admit that "the something" which is received from vaccination and "the something" which is received from carrying a syphilitic fœtus may not be of the same potency as regards infection from small-pox and syphilis respectively. But the difference is one only of degree; and at the most the mother of the syphilitic fœtus is only less liable to infection from syphilis than the vaccinated woman is to infection from small-pox. My position is that, as the protection of the mother from syphilis is not complete, she ought never to be exposed to the risk, even if the reason for doing so were much stronger than that which is adduced by Mr. Hutchinson, and which seems to me altogether insufficient.

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TRANSFUSION OF SALINE FLUID INTO THE AXILLARY CELLULAR TISSUE IN CASES OF SEVERE HÆMORRHAGE.

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THE credit of this method of treatment is due to Mr. Thomas H. Morse of Norwich, and it was owing to his suggestions some time ago that I became aware of it. The instrument used is a very slight modification of Mr. Arbuthnot Lane's transfusion apparatus, made by Messrs. Down Brothers, the only difference being that a sharp-pointed needle of a little stouter make is required instead of the blunt one used for introduction into a vein, and the ordinary saline solution is used—i.e., a teaspoonful of common salt to the pint of boiled water cooled down to the proper temperature (100° F.). Having fitted the needle, tube, and syringe together, fill the latter with the solution, then force the steel point of the needle through the skin of the axilla deep enough to move freely into the cellular tissue, and slowly and gently force the fluid into the cellular tissue. Refill the syringe and proceed again until a pint or more has been used. The following are brief notes of a successful case in my own practice.

In February last I was sent for one evening about 7 P.M. to attend a multipara, as the nurse was alarmed at the excessive hæmorrhage which had taken place during the preceding two hours without apparently any progress being made in the labour. I found the patient had lost an enormous quantity of blood and was in a dangerous condition, being blanched and pulseless, and the pains, which had been going on regularly for several hours previously, had now entirely left her. Upon examination I found the os only partially dilated and the membranes protruding, but no presentation detectable. I ruptured the membranes, a large quantity of liquor amnii escaping, and I found that the cause of the hæmorrhage was right partial placenta prævia. She was now in an exceedingly critical condition, vomiting, in a cold clammy perspiration, with sighing respirations, the bowels acting involuntarily, and she was pulseless, semi-conscious, and apparently rapidly sinking. Two subcutaneous injections of ether were given without the slightest improvement. Dr. Treutler, who kindly saw the case with me and lent me his assistance, agreed that no further interference in the labour was at present justifiable. Remembering Mr. Morse's suggestions, and having my instrument within easy distance, we performed transfusion according to his method, injecting about a pint, although I must confess without the remotest idea of benefiting the patient, as we considered the case beyond our assistance. However, after a very brief interval there were indications of slight improvement and a very feeble pulse was detectable at the radials. During the next two hours small quantities of warm milk and brandy were able to be taken at frequent intervals. After that time there were decided symptoms of rallying and benefit from the transfusion and pains returned. By examination a vertex presentation could be made out, and ergotinine ($\frac{1}{10}$ gr.) was injected and we delivered with forceps.

It may be interesting to note that the child (female) was stillborn and very large, weighing eight pounds and three-quarters and measuring twenty-one and a half inches in length. It was in a state of well-marked rigor mortis, the stiffness of the limbs and body adding considerably to the difficulty of completing delivery, which was accomplished at 12 45 A.M. The movements of the child were last felt at 6 P.M. The placenta was easily removed, and the position of the part whence the hæmorrhage occurred found well-marked on its border. The patient made an uninterrupted recovery, assisted by taking iron in the form of Blaud's pills (bi-palatinoids) for several weeks.

The results of the transfusion were rapid absorption of the saline fluid (hardly any swelling remaining at the end of two hours) and decided and rapid improvement of the urgent symptoms, thus enabling the patient to take minute quantities of nourishment; and its advantages are the quick, ready, and easy application of the method which could be managed any time single-handed. Mr. Morse has had two successful cases, one being for a pulseless patient, due to hæmorrhage as a result of extra-uterine fœtation, and he says "that the pulse became quite a good one in fifteen minutes," and he further suggests the use of this method "before certain operations in collapsed conditions due to hæmorrhage," and on future occasions he intends performing the operation in both axillæ.

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[7] Ibid, p. 106.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

CASE OF OBTURATOR HERNIA SUCCESSFULLY TREATED BY COPIOUS ENEMATA.

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MEDICAL OFFICER, MEVAGISSEY DISTRICT, ST. AUSTELL UNION.

ON June 25th, 1895, a fisherman aged thirty-eight years was carried home from his boat suffering great pain along the line of the adductor muscles to the knee of the left leg. The day before he had hobbled to his boat in pain in the same region, and had been obliged to remain on his hands and knees until he was carried ashore, as stated. The bowels had not been moved for two days. A slight sense of fulness to the inner side of the femoral vessels, inability to extend the thigh, the great pain at the groin, complete loss of appetite, and a sense of nausea, with the tongue dried in the centre, suggested the diagnosis, the inguinal and femoral canals being clear. Having tried moderate taxis without result I ordered an enema of a gallon of warm water, which was injected almost without the patient being aware of it, so complete was the loss of sensation in the lower bowel. After a quarter of an hour, there being no desire to defecate, he was asked to make an effort to move the bowel, with the result that about a pint of hardly discoloured water was passed. He was then put on morphia, belladonna, and tincture of chloroform, which somewhat relieved his pain and induced sleep for an hour or two. On June 26th, 10 A.M., I found that nothing had been passed by the bowel during the night. The tongue was drier and the condition was evidently worse. The temperature was 101° F. and the pulse was 112. I gave another enema of a gallon of warm water and applied taxis, with the result that I fancied I heard and felt a slight gurgle under my thumb. He now stated that he was not suffering so much pain. There was still loss of sensation in the lower bowel, but on the patient's trying to evacuate the enema about two pints were passed with a

few hard fæces, which I thought (from his passing so small a portion of the enema) must have been lying below the seat of injury. The morphia was continued. In the evening there was considerable pain, but no further motion by the bowel; a considerable amount of urine was passed. The tongue was still dry. I ordered elixir of cascara sagrada, two drachms, to be repeated in four hours. On June 27th no motion had been passed during the night, but much urine. The tongue was still dry and the pulse, temperature, and condition were generally about the same as they had been on the previous morning. The fulness at the inner side of the femoral vessels had disappeared and the pain at that part was not so severe. I considered that the hernia had been reduced and that there was probably stricture of the gut in the region injured. I again gave an enema of a gallon, rolled the patient gently from side to side of the bed, and kneaded the abdomen. The combined efforts induced considerable peristaltic action, with much pain and desire to defecate, with the result that there was a free motion of the bowels with plenty of fæces. On June 28th the patient was generally better; the bowels had been moved once freely during the night, but there was still some abdominal distress. On the 29th and 30th he was better, and on July 1st he went out for a walk. The diet throughout consisted of well-boiled gruel, beef-tea, and milk.

Polpier, Mevagissey, Cornwall.

CASE OF CHRONIC NEPHRITIS IN WHICH THE SEVERE DROPSY DISAPPEARED AFTER PERSISTING FOR NEARLY TWELVE MONTHS.

BY MATTHEW SHIRLEY, L.R.C.P. EDIN., L.F.P.&S. GLASG.,
MEDICAL OFFICER TO THE HUNSLET UNION WORKHOUSE.

A MAN aged thirty-two years was in the Skipton Union Workhouse in November, 1893, and onwards for thirteen weeks under Dr. Wylie and Mr. Welsh. He was swollen to the waist from below upwards and his urine on boiling was nearly solid with albumin. In March, 1894, he was under Mr. Atkinson of Romaldkirk, near Barnard Castle. On Sept. 19th his condition was rather worse and he went to the General Infirmary, Leeds. His urine was examined then, but his condition did not improve. On the 20th he came into the Union Workhouse at Hunslet, when his condition was as follows. There was anasarca from head to foot; the urine on boiling became solid; the patient was very restless; he had a dry, hacking cough; and was sleepless and muttering. Pilocarpine was given. On Oct. 4th there was no change for the better. The patient had been sweating, was still swollen, and very restless. The pilocarpine was given up. On the 11th the anasarca had become somewhat less. He was more cheerful and felt better. The urine was in the same condition and there were casts. On the 14th the anasarca was less all over and the urine was the same. On the 15th there was no albumin on boiling, but about one-fifth albumin on settling after adding nitric acid. The anasarca was quite gone and the improvement continued. On the 25th the patient was up and partook of eggs, liquor carnis, a mutton chop, and some milk. He was cheerful, and there was no return of any symptom. There were no casts and the albumin was lessening.

A NOTE ON FIFTY CASES OF INFLUENZA.

BY H. W. WEBBER, M.S., M.D. LOND.

SEVERAL interesting points with regard to the symptoms and complications occurring in influenza have at times been raised by correspondents of THE LANCET, notably—(1) throat affections, (2) the presence of skin eruptions, and (3) the treatment of the disease. My experience in fifty consecutive cases of influenza observed during the last epidemic is that throat trouble has been present in the majority, although the subjective symptoms of this have been slight, no pain on swallowing (or very little) being complained of. On examination the fauces, uvula, soft palate, and pharynx showed a general redness of peculiar dusky colour and dry appearance; the intensity of the inflammation has been fairly proportionate to the degree of pyrexia, though its slow subsidence has been in marked contrast to the usually rapid (from twenty-four to forty-eight hours) fall of temperature. I have not observed swelling of the tonsils beyond a slight congestion accompanying the above condition in any case. In twenty-two of the cases redness of the skin was present. This was of the nature of a congestive erythema, well-marked when pyrexia was at its height and then of deep-red colour, the skin being burning hot to the touch, this disappearing with the fall of temperature and leaving the patient anæmic. In nearly all the cases it was most intense on the face, arms, and hands. No desquamation of any sort has followed in any case. In four of the cases I have observed vesicular herpes; in three this made its appearance on the fall of temperature, in the fourth the patient when first seen was still going about, having a temperature of 102·2° F. on the fourth day of the disease. In one case the eruption was profuse, involving the alæ and columna nasi and both lips; in the other three a crop of vesicles about the size of a sixpence was situated on the lower lip. My treatment with all has been—(*a*) during the acute stage confinement to bed, liquid diet, and a mixture of salicylate of soda, bicarbonate of potash, and liquor ammoniæ acetatis, with the addition of a little sal volatile; the latter counteracts the depressing tendency of the salicylate of soda and the influenza virus and seems to lessen the headache, and this, when persisting after the acute stage, I have always found relieved by five-grain doses of antipyrin given every four hours if required; (*b*) after the subsidence of pyrexia by quinine with strychnia; and (*c*) special complications, such as bronchial catarrh, which has been frequent, require suitable treatment.

Plymouth.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

THE ROYAL EYE HOSPITAL, SOUTHWARK.

A CASE OF DIPHTHERITIC CONJUNCTIVITIS.

(Under the care of Dr. W. J. COLLINS.)

THE following notes of a case occurring in Dr. Collins's practice at the Royal Eye Hospital, Southwark, deserve record as showing very completely how the local, constitutional, and bacteriological phenomena which we recognise as diphtheritic have their exact counterpart when the seat of the initial lesion is the conjunctival mucous membrane instead of the faucial. The disease is said to be most common in Germany, but we sometimes get very severe cases in this country as evidenced by the record of this one. We are indebted to Dr. J. W. H. Eyre, clinical assistant, for the notes and the account of the bacteriological investigation.

The patient was a male child aged two years and was first seen by Dr. W. J. Collins on Feb. 10th, 1896. The history given by the mother was that the child's left eye had begun to be inflamed three days previously. The right eye became affected the next day, but it was not until the day previously to her visit to the hospital that the lids had swollen to any extent. When first seen both eyes were affected, the lids being swollen, red, and painful, and difficult to separate on account of the brawny infiltration of the surrounding subcutaneous tissues. On separating the lids by means of retractors the ocular conjunctiva was found to be injected and much chemosed; the palpebral portion was congested and thickened and presented patches of pale greyish-yellow membranous exudation, giving one the impression that a strong caustic had been recently applied. This membrane stripped off easily, leaving a raw bleeding surface below. The corneæ were slightly hazy, but the surface epithelium remained unbroken. A thin milky-white discharge, slight in quantity, exuded from

the palpebral fissures, excoriating the skin of the cheek. Such was the local condition; added to this the child was obviously ill, being flushed, restless, and irritable, with a temperature of 102° F. and a pulse of 100; he had albuminous urine. No throat symptoms were present, nor could any history of exposure to contagion be elicited. The treatment adopted was the isolation of the child and the use of a lotion of hydrochlorate of quinine (five grains to the ounce) every half hour, an ointment of boracic acid being subsequently applied to the edges of the lids. Once a day the membrane was stripped off and the whole of the palpebral conjunctiva painted with a solution of silver nitrate (twenty grains to the ounce). The membrane at the commencement of the treatment re-formed in the course of a few hours, but after the first day or two the exudation process was much less rapid and entirely ceased in seven days. As the cornea remained a little hazy drops of sulphate of atropia (two grains to the ounce) were instilled from Feb. 17th to 24th. At the end of this period the cornea and conjunctiva had regained their normal appearance. One month later the child was again examined, when there was found to be marked paresis of the extensor muscles of the left hand and forearm. The mother stated that the condition had been more marked a week or so before and was then improving.

Bacteriological examination.—When the child was first seen (Feb. 10th) cover-slip preparations made directly from the serous discharge revealed the presence of numerous polynuclear leucocytes, some staphylococci, and slender bacilli. These last measured about 1·75μ in length, and from the irregular manner in which they took the stain (carbolic methylene blue) presented a somewhat beaded appearance. None were clubbed, and morphologically the bacilli might equally well have been either the bacillus diphtheriæ or the xerosis bacillus. A blood serum tube was therefore inoculated with some of the discharge taken from the left lower conjunctival fornix and incubated at 37° C. for eighteen hours. At the end of that period the resulting growth consisted of small raised circular or rather spherical colonies of an opaque white colour, which microscopically consisted entirely of what appeared to be the long variety of the Klebs-Löffler bacillus. Some larger colonies of staphylococci were also present. From this first culture agar plates were made and the bacillus diphtheriæ was isolated. A subculture in bouillon was next prepared and after forty-eight hours' incubation at 37° C. examined and found to be pure. One c.c. was then inoculated into the subcutaneous tissue of the abdomen of a guinea-pig weighing 250 grammes (Feb. 18th); eighty-three hours later (the 22nd) the guinea-pig was dead, and post mortem the local œdema and serous effusions usually associated with death resulting from inoculation of the bacillus diphtheriæ were observed. Cover-slip preparations were made and blood serum tubes inoculated with the conjunctival secretion from each eye when the membrane had finally disappeared (Feb. 24th), but with negative results—the staphylococcus epidermidis albus alone being present. This observation was again repeated on the 27th with a like result.

STATION HOSPITAL, SIRDARPUR, CENTRAL INDIA.

A CASE OF ATROPINE POISONING AND A DOUBTFUL ONE OF STRAMONIUM POISONING.

(Under the care of Surgeon-Lieutenant-Colonel J. DUKE.)

THERE is probably no country in the world which affords so much employment and instruction to the toxicologist as India, and we in Great Britain gain considerable advantage from a perusal of notes of cases such as the following. It is to be regretted that the time of our medical brethren in the East is so much taken up with practical administrative duties that little is left for the record of clinical observations. Much which we can ill afford to lose should be published but is daily lost to the world owing to want of opportunity on the part of the overworked observer. The dose of atropine in the first case was unusually small in amount to produce such severe symptoms, and owing to the method of administration its effects were exceptionally difficult to overcome.

CASE 1. *Atropine poisoning.*—On June 21st a Sepoy aged forty years who was otherwise in sound health was admitted for lumbago attributed to a fall from a tree, the patient alighting on his buttocks. On the 25th five minims of liquor atropiæ P.B. (strength four grains to the ounce) were ordered as an injection into the loin to relieve the pain. The injection was given at 4.30 P.M., and fifteen minutes later he complained of dryness of the throat, giddiness, a feeling of intoxication, and distress. At 5 P.M. the pupils were dilated and the body was trembling. He picked at the bedclothes and was restless, throwing his arms about and moaning. If allowed to rise he wandered about, picking at the walls with his fingers. He was conscious and able to answer questions in a drunken manner. At 7 P.M. Surgeon-Lieutenant-Colonel Duke saw him. He was more or less insensible and restless, tossing about in bed and throwing his arms about wildly, his actions being restrained by two attendants. The noisy, pleasing delirium mentioned by Murrell was present. The pupils were dilated, the pulse was full and strong, and the respiration was thoracic and abdominal. He had apparently a desire to micturate, but was unable to do so. At 7.30 P.M. one-sixth of a grain of pilocarpine was injected subcutaneously; no physiological effects followed. At 8 P.M. the same quantity of pilocarpine was given without any physiological effects, but the delirium seemed to be less. At 9.15 P.M. the patient was quieter, but he was still quite unconscious. The pupils were widely dilated. The pulse was now small, thready, and compressible. At 9.45 P.M. one-sixth of a grain of pilocarpine was again injected; there were no physiological effects, but the delirium was much lessened. Mustard plasters were applied with bandages to the calves of the legs. At 10 15 P.M. the following enema was given: rum, two ounces; liquor ammoniæ fortior, five minims; and very hot coffee, one pint. At 10.30 P.M. the patient suddenly became conscious and answered questions. He micturated freely. At 12 midnight he was sitting up; he was a little shaky in his movements, but quite rational and answered all questions. He said that "something had happened to him, but what that something was had gone."

CASE 2. *Stramonium poisoning (a doubtful case)*.—A Sepoy aged thirty-five years was carried to hospital on Sept. 15th. On admission he was insensible. His temperature was 101·6° F., indicating fever; the attendant symptoms were, however, unusual. His decubitus was peculiar; he lay boring his head into the pillow and trying to hide it; he picked at the bedclothes with his fingers and was generally restless. He tried to get up, but was unable to stand. His pupils were neither dilated nor contracted. Inquiry showed that on the previous day he had worked with a fatigue party engaged in removing mud from a river, and that he was in good health on the evening preceding his attack. He was said to take one pill of opium three times a day. The diagnosis was possibly cerebral effusion. There was no history of poison. A blister was applied to the head, calomel with antifebrine was administered internally, and mustard plasters were applied to the calves. At 7 P.M. the temperature was 102°. At 8 P.M., owing to retention, twelve ounces of urine were drawn off with a catheter. At 9 P.M. his symptoms were serious and much the same; a castor oil enema was ordered. On Sept. 16th at 8 A.M. the bowels had been moved three times and there had been vomiting once. His behaviour was still most curious. He was more or less delirious and started when the hand was placed on his body. If roused he looked up and then buried his head in the clothes. As these symptoms corresponded to the description of datura poisoning given in the text-books one-sixth of a grain of pilocarpine in ten minims of water was injected. The usual physiological effects followed and the patient became quieter and more conscious. At 6 P.M. the same quantity of pilocarpine was given, after which he was much quieter. On Sept. 17th at 8 A.M. he was conscious and spoke rationally; he walked and took food. He was discharged to duty on the 24th.

Remarks by Surgeon-Lieutenant-Colonel DUKE.—The patient in Case 1 was a confirmed Indian hemp smoker and drinker of twenty years' standing. When the Indian Hemp Commission sat in 1893 he contributed to it the principal written evidence sent from Sirdarpur. Whether this habit renders a man liable to be specially affected by atropine is an open question. My own impression at the time (considering the smallness of the dose and the severity of the symptoms) that the Indian hemp habit had created an idiosyncrasy in this patient is only a conjecture. I can find no mention of it in the text-books. With a view of determining whether the gunja habit hindered the action of pilocarpine, four days after his recovery pilocarpine was again used as follows. On June 29th at 4 P.M. one-sixth of a grain of pilocarpine was injected; at 4 5 P.M. there were slight forehead

perspiration and slight salivation; at 4.10 P.M. free salivation was present; and at 4 30 P.M. the salivation had ceased. The saliva secreted amounted to three ounces, giving the full and usual effects of this drug. This experiment proves that (1) the bhang habit in no way checked the action of pilocarpine; and (2) the atropine poison alone prevented its action, the dose of pilocarpine being insufficient. Regarding the treatment of atropine poison, in his book on Poisons Murrell advises the injection of half a grain of pilocarpine every half-hour. In this case only one-sixth of a grain doses were given, as at first it seemed incredible to me that one-twenty-fourth of a grain of atropine could produce dangerous results. Yet at 10 P.M. the symptoms were somewhat alarming. Had half a grain been used at first it seems probable that consciousness would have been restored in a brief period. I have lately tried atropine in three cases of local pain, using two minims of the solution in three minims of water. In all instances slight physiological symptoms rapidly developed. Martindale and Westcott, in their Extra Pharmacopœia (fourth edition) quote as follows: "Inject. atrop. hypd.: dose 1 to 4 minims or more." The condition of the patient in Case 2 at one time seemed to be very serious, and the symptoms were most puzzling. A high temperature indicated fever, but the symptoms of delirium, retention of urine, picking at the bedclothes, and pillow-boring were not such as occur in fever of a few hours' duration. On Sept. 14th, when at fatigue duty, he probably ate some datura seeds, and the rise in the temperature was caused by a chill caught in the river bed. The case was probably one of mild datura poisoning accidentally associated with fever, both producing a combination of symptoms difficult to diagnose.

Medical Societies.

OPHTHALMOLOGICAL SOCIETY.

Leucosarcoma of Choroid—Cataract Extraction and Gout.—On the Origin of Ruptures in Detached Retinæ.—Cyst of Orbit.—Acquired Nystagmus in other Occupations than that of Coalmining, with Cases and Remarks.

AN ordinary meeting of this society was held on June 11th, Mr. E. NETTLESHIP being in the chair.

Dr. ROCKLIFFE (Hull) described a case of Leucosarcoma of the Choroid. The patient was a man aged forty-two who had previously had a fall on the occiput. Three years afterwards he fancied he saw "black specks" before his eyes, but no inconvenience was remarked until nine months later, when he discovered it was necessary either to close the left eye or to hold a book slantingly in order to read with comfort. He had a good family history and always enjoyed good health. His vision when first seen was normal in the right eye and $\frac{6}{9}$, with + 1 D. = 4 J. in the left. Pupil natural, field normal. There was no scotoma; the colour sense was good; and the fundus was normal. The above condition continued, with the exception of increase of defect of vision, for two months, when the perimeter showed a defective field and the retina was loose around and below the yellow spot. A fortnight later the retina showed marked detachment with defined margin extending from above the yellow spot downwards nearly to periphery and almost to the optic disc. There was no other symptom of orbital tumour. No choroidal vessels were to be seen beneath the detached retina. No tremulousness of iris. Sarcoma of the choroid was diagnosed and immediate excision advised. This was done four months after he had first noticed the defect of vision. The specimen (shown) exposed a round-celled unpigmented sarcoma, measuring 13 mm. by 4 mm., originating to the outer side of the optic disc in the deeper layers of the choroid. Dr. Rockliffe alluded to several recorded cases and inferred that leucosarcomata of the choroid usually originated from the deeper layers of the choroid at the posterior pole of the eye, that they were not easily diagnosed in their earlier stage, and although the adult eye seemed to be the most common as in other sarcomata it might vary from twenty months to seventy years and their development was usually rapid. He estimated that about one in every 100 cases of sarcoma of the choroid was unpigmented and that the majority proved fatal by metastasis.—Mr. MARSHALL, estimating from a limited number of cases coming under his notice at Moorfields, stated that as high a proportion as 22 per cent. of the sarcomas were devoid of pigment. Mr. Lawford and Mr. Treacher Collins, in the cases they had collected, estimated the proportion of unpigmented sarcomas as 11 per cent.—Mr. JOHN GRIFFITH had met with eight unpigmented specimens among thirty-five sarcomas affecting the choroid. He was of opinion that the growth originated in the chorio capillaris and not in the deep layers of the choroid.—The PRESIDENT thought that the difficulty of diagnosis in this case lay in the great extent of the tumour and its slight depth; it illustrated the importance of estimating refraction carefully in cases where vision had undergone a change.

Dr. ROCKLIFFE also related a case of Cataract Extraction complicated by Gout. The patient six hours after the operation had alarming and copious hæmatemesis, followed on the second day by an acute attack of gout in the hands and feet, and immense chemosis of the conjunctiva on the sixth day. The patient, however, made a good recovery from the extraction, and on May 15th, two months after the operation, his vision was $\frac{6}{9}$ and J 1, and he had read the lessons in his village church on the previous Sunday using the operated eye with the greatest ease.—The PRESIDENT was of opinion that attacks of gout following cataract extraction were not very uncommon, even in hospital patients, but were not generally mentioned in the notes because they did not affect the after recovery of the eye; he had met with several instances.—Mr. W. LANG referred to four cases in which patients had suffered from an acute joint attack just after cataract extraction, but in none of them had there been any ocular manifestations of gout.

Mr. TREACHER COLLINS read a paper on the Origin of Ruptures in Detached Retinæ. He first referred to the views of Graefe and Raehlman that the ruptures were due to tension of the subretinal fluid, and of Leber and Nordensen that they were produced by traction on the retina from shrinking bands in the vitreous. He then read an account of, and showed some lantern slides of, two specimens, which afforded definite anatomical proof of the occasional formation of these ruptures in the way inferred by Elschning from the appearances seen by him in two cases he had examined ophthalmoscopically. In each of the eyes described by Mr. Collins the retina was apparently completely detached and lay folded in the centre of the globe. In each he had found, however, on microscopical examination, a patch of atrophied retina intimately adherent to the choroid in the yellow spot region, and completely isolated from the rest of the retina. It would seem, therefore, in these two cases that there had first been some central retino-choroiditis which had, over a localised area, so firmly united the retina and choroid that when subsequently the former became detached the adherent patch of it was torn away and remained attached to the choroid, a hole thus being formed in the detached retina.—Mr. W. LANG spoke of three cases of detached retina under his care in which there had been holes in the yellow spot region. He inquired whether adhesions occurred elsewhere than at the yellow spot. In many of the ruptures there was no loss of retina, only laceration.—Mr. COLLINS readily admitted that there might be other ways in which rupture occurred besides the one he had described; he merely wished to give this anatomical evidence in support of the theory of Elschning.

Mr. R. W. DOYNE communicated for Mr. W. E. CANT of Jerusalem an account of Cyst of the Orbit. The patient, a man, went to the British Ophthalmic Hospital, Jerusalem, with proptosis. Vision was not much impaired. There was a firm, solid substance to be felt in the seat of the lacrymal gland, and deeper than this a fluid tumour was felt occupying the orbit and passing through the bone to the temporal fossa, so that the eyeball became more prominent with the movements of the jaw. The tumour was incised, and found to be a cyst lying beneath the periosteum in the outer wall of the orbit; the bone between it and the temporal fossa had been absorbed. After considerable delay the cavity granulated.—Dr. ARGYLL ROBERTSON said that dermoid cysts of the orbit adherent to the bone often caused great difficulty. It had been suggested to him by Dr. Robertson of Singapore to make a free incision into them, evacuate their contents, and insert a small piece of lunar caustic. This caused brief suppuration, and in a few days the cyst wall was loosened and could be withdrawn entire by forceps.

Mr. SIMEON SNELL (Sheffield) read a paper on Acquired

Nystagmus in other Occupations than Coalmining, with cases and remarks. The labour bestowed in recent years in the investigation of the etiology of miners' nystagmus, was bearing fruit in demonstrating the existence of a similar occupation—neurosis in the workers in other employments than that of coalmining. The constrained position in which the collier worked would, perhaps, remain *par excellence* the most conducive to the production, in frequency and severity, of acquired nystagmus, but the case he related showed that nystagmus and weariness of the ocular elevators were already to be found in a variety of occupations. He referred to the interesting historical fact that Michael Angelo suffered in his eyes from painting the vault of the Sistine Chapel, and he wrote a sonnet which Mr. Snell quoted, describing the constrained attitude he was compelled to occupy at his work. Vasari, suffered in a similar manner from painting the Medicean Palace. Mr. Snell mentioned that since recording his case of nystagmus in a compositor in 1891, 12 other cases, 5 of them compositors, had come under his observation. Three cases had been communicated to him by Mr. Priestley Smith, and 3 by Dr. Simons (Merthyr Tydvil), and Nieden had recorded an instance of acquired nystagmus in a plank cutter. The total number of cases referred to in the paper was 19, and comprised 6 compositors, 2 metal rollers, a platelayer, a plankcutter, a saw maker, a sanitary tube maker, a fitter, an ironfounder, a worker in a "cage" at a mine, 2 employés at a glass factory, a youth engaged at a confectionery warehouse, and a man employed at the screens at the surface of a coal mine. They varied much in degree, and in some there was more weariness of the ocular elevators than very noticeable nystagmus: but it was held that, as in the case of miners, the oscillations would have been more marked if the examinations had been made when the patients had been at work for some time. Generally speaking, the nystagmus was less marked than that met with in miners. Mr. Snell thought that attention having been drawn to the matter, nystagmus and strain or weariness in the elevators will be much more widely recognised as caused by different employments than was the case at present. The plan of investigation advocated was to get the patient to place himself in the position in which he worked, or better to see the patient actually at his employment. In conclusion, Mr. Snell remarked that he thought a main factor in the causation of "Academy headache" was the weariness induced in the ocular muscles by turning the gaze so frequently above the horizontal line. This could be compensated by a backward movement of the head.

The following living and card specimens were shown:—

Mr. SECKER WALKER: (1) Tumour of Optic Nerve: and (2) Cysticercus of Conjunctiva.

Dr. BELL TAYLOR: Cases of Cataract Extraction.

Mr. SILCOCK: Lymphangioma of Orbit.

Mr. LAWFORD: Pigmentation of Conjunctiva.

Mr. JULER: Macroblepharon.

Mr. HOLMES SPICER: Acute Double Optic Neuritis.

ABSTRACT OF THE BOWMAN LECTURE.

Vision and Retinal Perception.

Dr. H. SNELLEN, Professor of Ophthalmology in the University of Utrecht, delivered the Bowman Lecture on Vision and Retinal Perception before this society on June 12th.

After paying an eloquent tribute to the memory of Sir William Bowman and to his powers as a brilliant operator and scientific physician Dr. Snellen proceeded to consider the demands made by the State on ophthalmic surgeons at the present day in regard to the examination of candidates for the public services, and pointed out that England had taken the lead among nations in this matter. The Ophthalmological Society and the British Medical Association, having each of them investigated and reported on the subject, had succeeded in impressing the authorities with a knowledge of its importance. As tending to throw light on some of the questions of vision which were still undetermined, the lecturer went on to describe the result of some investigations on vision and retinal perception which he had recently been making. Alluding to the contention of Vierordt and others that it was better to express the acuity of vision by the square of the diameter of the retinal image rather than by its linear measurement, Dr. Snellen pointed out that while the recognition of form depends on more complicated considerations than can be expressed by the simple linear measure, yet the value of perception is not fully represented by the square measure of the retinal image, inasmuch as the perceptivity of the fovea is not equal all over, but diminishes from the centre outwards. Moreover, the act of vision was not confined to the perception of a stationary retinal image, because the movements of the eye brought every part of the image over the centre of the fovea and each muscular movement represented a linear measure. One of the most important questions was the dependence of acuteness of vision on the amount of illumination and the difficulty of stating the amount of illumination, especially by daylight which varies so constantly. A fresh series of observations had been recently made on this subject at Utrecht under Dr. Snellen's direction. The observations were carried out by the light of a gas flame kept at a constant pressure by a special regulator and passed over benzine to secure constancy of illuminating power. The photometer of Leonhard Weber was used, by means of which it was possible to estimate the amount of light on any given surface without regard to the source of the light. It was found that when the illumination reached a certain degree of intensity the unprotected eye was unconscious of any further increase of luminosity; the maximum of vision was reached with a luminosity of 30 to 50 metre candles. With decrease of illumination the vision soon diminished and changes in intensity were quickly perceived. The acuteness of binocular vision was higher with every degree of illumination than that of monocular vision, but the difference was not equal to doubling the intensity of the light, as had been stated. A further series of observations was made with the photometer in order to arrive at the intensity of daylight at different times in various workshops. In a printing business the want of light impeded the work of compositors when it fell below 15 metre candles and if at dusk the intensity did not fall below 15 metre candles there would be in full daylight an intensity of 30 to 50 metre candles, direct sunlight being excluded; for coarser kinds of work, like that of carpenters and blacksmiths, a minimum of 10 metre candles was enough. In the new Ophthalmic Hospital at Utrecht special arrangements for lighting the operating room had been made; the highest demands on the visual powers were made where operations on the eye had to be performed. Considering that the visual power is heightened by adaptation of the eye for a weaker light than that falling on the observed object, the walls, ceiling, and floor of the operating-room had been painted black and light was only admitted through a window directly on to the patient. By this means the operator had at his disposal the maximum of his vision; there was the additional advantage that the troublesome reflections from the cornea were avoided, and the patient's gaze could be kept fixed in any direction by the flame of a candle which could be well seen against the dark background of the walls. The adaptation of the eye to light was next considered. Like the size of the pupil, the sensibility of the retina changed under the influence of light and darkness. The time required for adaptation corresponds with the period of anatomical changes in the retina—namely, the formation and disappearance of the visual purple, the changes in the pigment cells and cones. Observations were made with a small screen illuminated by an electric spark of great intensity. The moment the light flashed forth there appeared on the screen a bright flood of light, which rapidly increased in intensity and then faded away in about a corresponding period of time. During the increase in intensity the light had the same colour as the screen; during the decrease it had the opposite colour. This occurred with all colours, provided they were sufficiently saturated. Mixed colours were seen as such, followed during the decrease by opposite mixed colours. It was found that absolute white is very rare; white paper has always a yellow or blue tint, and dead black appears as saturated blue followed by yellow. These two phases were succeeded by a third phase of much longer duration. The after-image corresponding to this third phase was very feebly coloured and was mostly of a reddish-brown colour. As long as this red-brown after-image persisted there was anæsthesia for objective light, such as was given by a plate of luminous paint. The third phase corresponds to the more commonly studied after-images, which arise by long-continued looking at a bright object and its projection on a white surface. This interesting succession of light and dark of the after-image can also be seen on looking at a very

feeble light in a darkened room; if this be done the light slowly fades and disappears altogether, but with the slightest movement of the eye it suddenly reappears, owing to its falling on a fresh part of the retina. If the light be looked at while movement of the eye is carefully avoided after disappearance it slowly and gradually returns to its former brightness and then slowly fades again, so that a continual slow succession of light nd darkness can be observed. These phenomena are to be looked upon as an example of the reciprocal effect of the adjoining parts of the retina on each other; according to Herring's theory of colour vision there is a continuous reciprocal influence between the spot in the retina where the image is observed and the adjoining parts, due to a modification of the visual substance which undergoes alternate assimilation and dissimilation. Assimilation and dissimilation can temporarily become equally great and by reciprocal influence neutralise each other.

BRITISH GYNÆCOLOGICAL SOCIETY.

Exhibition of Specimens.—Some Psychological Consequences of Suppressed Menstruation. — Successful Transfusion after Extreme Hæmorrhage.

A MEETING of this society was held on June 11th, Dr. CLEMENT GODSON, President, being in the chair.

Mr. R. O'CALLAGHAN showed two specimens of Fibromyoma of the Uterus removed by the Extra-peritoneal Method of Hysterectomy. Both patients made a good recovery.

Dr. MACPHERSON LAWRIE showed two specimens of Carcinoma of the Uterus removed by Vaginal Hysterectomy.

Dr. FANCOURT BARNES read a paper on some of the Psychological Consequences of Suppressed Menstruation. He recalled the fact that the menopause, whether natural or artificial, was liable to be associated with mental disturbance; and that the natural climacteric had a more marked influence in this respect than the sudden inhibition of menstruation by accidental causes. He then briefly reviewed the process of menstruation from the point of view of the variations in vascular tension which it occasioned and which could be demonstrated by the sphygmograph. He believed that the increased vascular tension was in some measure responsible for the mental disturbances found. This was illustrated by the following case. The patient was aged twenty-seven and was single. A year before coming under observation she had a great shock from the death of her father, whereupon menstruation ceased. She became very depressed and weak-minded, while her physical condition deteriorated. She had undergone the routine medical treatment for amenorrhœa, so he advised examination under ether with a view to surgical intervention. Finding the os uteri not well developed, he divided the cervix bilaterally and applied tinctura iodi to the endometrium. A similar application was made twice a week for the next three weeks. A month after the operation menstruation came on freely and painlessly. She at once began to improve mentally and physically, and some months after was perfectly well.—Dr. LEITH NAPIER said he had seen cases such as that recorded in the paper, and thought Dr. Barnes's argument a sound one. He recalled the case of a young girl in whom the sudden suppression of menstruation following on a chill was associated with severe neuralgia and complete blindness. The latter shortly passed off and menstruation was re-established. In another case, after removal of the appendages, the patient menstruated regularly for two and a half years; as the flow then became profuse he curetted the uterus. Menstruation ceased and symptoms of the menopause came on. They were so severe that he ordered an emmenagogue; the flow returned and the symptoms ceased. When she left off taking the medicine amenorrhœa again resulted, with the same symptoms as before.—Dr. ROBERT BARNES thought the case well illustrated the association between menstruation and the nervous system. In a paper read before the society some years ago he dwelt on the relation of menstruation to insanity. If the present case had got into an asylum she would probably have stayed there, for he regarded it as a great fault in the organisation of our asylums that there was no provision for the examination of such cases. Not only should women be examined before being committed to asylums, but the asylum authorities should employ skilled gynæcologists to attend to pelvic disease occurring among the inmates, whether or not the mental condition was likely to be benefited thereby. As it was he regarded asylum medical officers as among the most absolute of the profession, and once a woman was placed in an asylum she was likely to stay there. He often recalled a precept he learned in Paris in his student days: "Messieurs, interrogez tous les fonctions"; he thought it was one they should always bear in mind.—Dr. ROUTH had seen a great number of these cases where the neurotic condition was so marked that unless the patients were in good hands they were very likely to drift into an asylum. As a rule no one knew less of the gynæcological conditions in the insane than the medical attendants in asylums; more than once he had been called in to see patients and had been able to save some of them from spending their days as lunatics. Dr. Barnes's paper would have done much if it did nothing else but call attention to the fact that many kinds of insanity were due to suppression of the menses.—Dr. MACNAUGHTON JONES said they must remember that suppression of the menses was sometimes the result, and not the cause, of mental disturbance. They should not too broadly impeach the heads of asylums, and some of the remarks made by previous speakers on this point were not just. He knew personally many asylum medial officers, and was convinced that they were just as alive to the coördination of mental and sexual conditions as anyone present, and were just as anxious to arrive at the truth of the matter and secure the well-being of the patients. The question of treatment was often very difficult, for the patient's safety had to be thought of, and it was sometimes necessary to put her under temporary restraint. He remembered a case in which a young girl walked into the river while under treatment for the restoration of her menstrual functions. Dr. Barnes's remarks about the variations in vascular tension were interesting; the high tension might show itself in other directions, as in disturbances of the eyes, ears, nose, or throat.—Dr. FANCOURT BARNES, in reply, said his object had been to show the value of surgical methods in some cases which were generally looked on as purely medical. The case was, no doubt, an extreme one, and of course they would not wish, as a rule, to resort to surgical measures in the case of young girls. He had had good results from similar treatment in cases of dysmenorrhœa.

Dr. E. HOLLAND read a note on a case of Successful Transfusion after Extreme Hæmorrhage. Two hours after an ordinary ovariotomy the house physician at the hospital for Women, Soho-square, noticed signs of severe and rapidly progressive hæmorrhage and sent for Dr. Holland. On his arrival the patient was pulseless. He at once re-opened the abdomen and re-tied the pedicle. By this time the patient had ceased breathing. Dr. R. T. Smith carried on artificial respiration and Mr. Scott Elliott, then senior house physician at the hospital, rapidly and skilfully performed transfusion, whilst he (Dr. Holland) was occupied with cleansing the flooded abdomen. After a pint of saline solution had been introduced a faint sigh was heard and the pulse was felt, thready and unstable. After the second pint it was a little stronger and the hands became warmer. After three pints had fully passed into the veins the patient opened her eyes, rolled her head, and had a well-sustained pulse of 108, and was put back to bed. Chloride of sodium solution was also used for washing out the abdomen and about a pint was purposely left in. The patient sat up in bed on the eighteenth day and left the hospital convalescent on the thirty-fifth day.

EDINBURGH OBSTETRICAL SOCIETY.

Fœtus Compressus.—"The Indigestion of Breast Babies."—Peripheral Neuritis in Pregnancy.—Abortion of Four Fœtuses, one Monstrous.—Cyst on the Back of an Infant simulating the Head of another Infant.

A MEETING of this society was held on June 10th, when, in the absence of the President, Dr. HALLIDAY CROOM occupied the chair.

Dr. J. W. BALLANTYNE exhibited a Fœtus Compressus. It was accompanied by two placental masses with the smaller of which this fœtus was connected. It had evidently died about the third month; the other fœtus reached the seventh month and at birth showed signs of having been dead for some time.

Dr. JAMES CARMICHAEL read a paper entitled "The

Indigestion of Breast Babies." In alluding to the digestive troubles of bottle-fed infants he advocated the establishment of a milk laboratory in Edinburgh similar to the establishments of the larger cities of America. Sterilised milk was prepared and cream obtained by the centrifugal separator in these places, and milk might be analysed at small cost. A healthy child nursed by a healthy mother only rarely suffered from indigestion, but numerous causes might injuriously affect both. Defective hygienic conditions, low-lying houses, and insanitary drainage might affect the health of the mother and thus act on the child. General debility in the mother interfered with lactation; this might be induced by over child-bearing or it might be the result of the excessive mental training of girls during school life. Poor women who were often overworked and badly fed made inefficient nurses. So, also, many women in the upper classes with its luxury were often unable to nurse their children. Ill-health produced by any disease will interfere with proper lactation. Galactorrhœa or the constant flow of watery milk was evidently due to an over-excitability of the secretory functions and its causation thus associated with the nervous system. The milk was insufficient for the proper nourishment of the infant. Whenever the milk of the mother was defective in quantity or quality the child did not thrive or grow at the normal rate; the infant became soft and flabby, was always crying, and never appeared satisfied. The digestion was upset and vomiting was not infrequent: the stools were generally loose, pale, and often of an ashy-grey or greenish colour and with an excess of mucus. The undigested curd was present in little granular masses. As a rule the indigestion of milk was more frequently intestinal than gastric, diarrhœa being more common than vomiting; this was largely due to indigestion of the fatty and proteid elements of the milk. Irregular suckling was one of the commonest causes of indigestion in infants; it might occur from over-anxiety on the part of the mother, giving the infant the breast whenever the child cried; or it might be due to the milk being too poor in quality. In treating these cases the physician should first ascertain the cause, inquiring into the health of the mother and her habits and carefully examining the breasts, the milk, and the stools of the infant. During menstruation the milk on analysis showed deterioration in quality, and might give rise to a disturbance, often of a trivial nature, in the child. On the cessation of the menses the milk generally returned to a normal condition. In many cases menstruation was not a bar to nursing. It was necessary to wean the child if frequency occurred. The mother should take her usual plain and mixed dietary during nursing and a due amount of open-air exercise. Mothers were sometimes too ready on slight excuse to give up the nursing, but they should always be discouraged from doing so. If the milk was deficient in quantity the medical attendant should inspire the mother with hope that she might be able to nurse her child, and should increase the amount of liquid and easily-digested food she was taking. If there was too much milk the fluids must be reduced and the solids in her dietary increased. Irregular suckling should be prohibited. If the solids in the milk were deficient the child ought to be given the breast more frequently and the mother prevented from over-exerting herself and not allowed to take too much fluid. To decrease the solids the child should be nursed at longer intervals and the mother prescribed more exercise and more fluid nourishment. Increase of fat indicated the need of less animal food in the dietary and the reverse if there was too little cream. If the child was being too frequently applied to the breast some sterilised water should be given at times instead.—Dr. UNDERHILL spoke of the troubles attending the rearing of infants by wet-nurses and of the benefits obtained by giving the mother encouragement as to her capability of nursing the child.—Dr. KEPPIE PATERSON alluded to the necessity of examining the saline constituents of the milk, referring to a case seen in Berlin where the infant had refused the left breast and was being reared on the right. The mother stated that the milk from the left was salt, and on investigation this was found to be correct.—Dr. HALLIDAY CROOM said that in most cases it was not from want of willingness that mothers did not nurse their children, but because they could not, though he believed it was much better for them to do so.—Dr. JAMES RITCHIE, Dr. CHURCH, and Dr. BALLANTYNE also took part in the discussion.

Dr. GEORGE ELDER read a paper on Peripheral Neuritis in Pregnancy. He detailed the history of two cases. One was seen at the eighth month and the other at delivery, and both had suffered since the sixth month from the symptoms. There were tingling and loss of feeling in the fingers and loss of power, as shown in dropping articles from the hands; the hands were cold and there was impairment of the perception of heat. The arms were affected, and in one case the cutaneous nerves of the haunch and in the other the feet were also affected. There was no albumin or sugar in the urine and no evidence of alcoholism or syphilis. Recovery quickly occurred after labour. In referring to the literature of the subject there were two divisions—the polyneuritis of the puerperium and that of pregnancy. The former was due to septicæmia or the direct injury of the pelvic nerves by the pressure of the head or forceps, or by inflammatory exudation involving the nerves. The polyneuritis of pregnancy had symptoms corresponding to ordinary alcoholic peripheral neuritis. It usually began with paræsthesiæ more or less severe in the extremities, then paresis affecting especially the flexors of the wrist and foot, with the electrical reactions corresponding to the rapidity of the disease; and there were also, perhaps, trophic lesions. After eliminating the ordinary causes of neuritis—alcoholism, diphtheria, syphilis, lead, arsenic, &c.—he concluded that these cases were due to the pregnant condition and also because the neuritis disappeared after labour. During pregnancy there was more metabolism and a larger quantity of effete products was present in the blood, and this was the probable cause by poisoning the nerve cells in the spinal cord. There was little doubt that it was a peripheral neuritis, but as to the exact nature of the poison there was not the slightest evidence. Two fatal cases had been reported, and if the disease was seriously advancing it might be necessary to induce labour.—Dr. CULLEN remarked that the rarity of the condition during pregnancy rather pointed to that state acting as a preventive to the disease.—Dr. KEPPIE PATERSON alluded to a case where the symptoms commenced at the middle of pregnancy before there could be any pressure on the renal veins; the neuritis was complicated with anasarca in the later months. No albuminuria was present. The patient was a multipara, and the only explanation was that in this pregnancy she carried twins. He believed this disease to be due to insufficiency of kidney-action; in this case the kidneys had excretory power for one but were over-taxed with two children *in utero*.—Dr. MILNE MURRAY mentioned the case of a patient suffering from neuritis, which disappeared with the recurrence of pregnancy, and after delivery the symptoms returned. The neuritis was ultimately found to be due to the drinking of eau de Cologne.—Dr. LACKIE referred to a patient who had influenza with severe neuritis, and where pregnancy so aggravated the condition that the induction of premature labour was discussed. That, however, occurred naturally, and the patient recovered after a very prolonged convalescence.—Dr. HALLIDAY CROOM believed that pregnancy had some influence in preventing neuritis. A case of Raynaud's disease had been under his care where the symptoms were very much mitigated by the presence of pregnancy.

Dr. GUNSBURG of Charkov, Russia, sent a paper on a case of Abortion of Four Fœtuses, one of which was monstrous; also one on a Cyst on the Back of an Infant simulating the head of another Infant. These papers were translated and communicated by Dr. J. W. BALLANTYNE.

THE ROYAL SOUTH HANTS INFIRMARY AND THE POOR-LAW.—At the last meeting of the South Stoneham (Hants) board of guardians a resolution of much practical utility was arrived at. A letter was received from the management of the above-named institution at Southampton drawing attention to the scheme of alterations and additions to the infirmary which has been already mentioned. The estimate of the cost stands at £19,000. In view of the value of the infirmary to the suffering poor of the county the chairman of the governors appealed earnestly for help. The guardians already subscribe £15 per annum to the funds of the infirmary, but it was felt that its aid to the rates was such that a further grant of £10 per year would be justified. It was unanimously decided to subscribe £25 per year for three years as an aid to the efforts of the governors of the institution.

Reviews and Notices of Books.

Argon and Newton: a Realisation. By Lieutenant-Colonel W. SEDGWICK. London: W. B. Whittingham and Co., Limited. 1896. Price 7*s.* 6*d.*

LIEUTENANT-COLONEL W. SEDGWICK, late of the Royal Engineers, is most emphatically a materialist or realist, at any rate, in his views of atoms. He believes, with Newton, "that God in the beginning formed matter in solid, massy, impenetrable, movable particles ..... and that these primitive particles being solids are ..... so very hard as never to wear or break in pieces," &c. "Hard atoms," indeed, is his thesis, which, like the atoms, is also hard (to understand). Their existence, however, according to the author, is supported by the discovery of argon and helion. He urged in a previous work ("Force as an Entity") that valent metalloid atoms had undergone a process of shaping, and had been formed out of the atoms of pre-exisiting inactive elements. Now argon and helion have come to show, he adds, that inactive elements of some kind are in actual existence. They are like unshapen bricks, so to speak, which will not take a convenient place in the structure. He attempts to find this place and to put them in proper position, although it should be remarked that their elementary nature is as yet by no means settled; but "this cannot be done without perfect quietness," and "the difficulty of obtaining perfect quietness is undoubtedly great, and we have to plead for it." If only Mr. Jacoby's Street Noises Bill —— "but that is another story." We hope this pleading will not be in vain, but the effort will in no wise be assisted by raising questions (as is done in the preface) of national defence, which the author regards as a related subject of the question of reality. He speaks also "of fluid corpuscles" as the "mediating entities" which Philo employed to form a connexion between God and the world; but they are employed in "Argon and Newton" to form a connexion also between the evil one and the world. Those who desire something funny and incomprehensible to read should secure a copy of this volume.

Middlesex Hospital: Reports of the Medical, Surgical, and Pathological Registrars for the year 1894. London: H. K. Lewis, 136, Gower-street, W.C. 1895. Price 2*s.* 6*d.* net.

THIS volume contains a summary and statistical tables of the various diseases and injuries for which patients were treated during the year 1894. It is thus a valuable contribution to medical literature, and we are able to judge of the effects of treatment, &c., as set forth in an impartial manner. There are no papers by any members of the medical staff; indeed, there is no list of the staff published in the volume. This, we hope, the committee responsible for the reports will remedy in future issues, as it is interesting to know the names of members of a hospital staff during any one year, and we do not know any more satisfactory place for future reference than the report of the hospital for the year. The medical report by Dr. F. J. Wethered shows that 1618 patients were under treatment in the medical wards during the year, and the percentage mortality was 11·42, and the average stay of each patient in hospital 26·77 days. Forty-five cases of diphtheria were admitted and treated, with a mortality of 26·66 per cent. The antitoxin treatment was adopted in 9 cases, 2 of which died. Twenty-four cases of typhlitis were admitted during the year; 3 of these were transferred for operation. Amongst the cases which are specially abstracted we note typhus fever, pyæmia from middle ear disease terminating in recovery without operation, although the hip underwent spontaneous dislocation; Landry's paralysis, from which the patient recovered; actinomycosis involving the skin; actinomycosis of cheek, &c. From the surgical report, by Mr. John Murray, we learn that 1839 cases were under treatment in the surgical (including ophthalmic) wards, the mortality for the year being 8·5 per cent., but exclusive of deaths from malignant disease only 3·3 per cent. The average stay in hospital was 28·91 days. The special abstracts of interesting cases consist almost entirely of diseases of the abdomen, a series of operations on the kidney being especially instructive. There are apparently several cases treated in the surgical wards which in most hospitals are handed over to the gynæcological department. The report of the pathologist, Dr. A. F. Voelcker, contains a short record of 236 necropsies. This is a carefully written abstract; the observations are reported in the order in which they were made and not in a recognised grouping. An interesting table is that of abnormalities found during the post-mortem examinations of the year, the patients having died from other causes. We should like to see a report issued by every hospital on the same lines as this one. At present there are several hospitals where doubtless the practice is satisfactory, but there is no evidence to that effect before the medical profession. All institutions supported by charity where operations are performed or acute diseases received for treatment should give a yearly account of the results obtained within their walls in order that the medical profession may say whether the expenditure is justified.

Foods: their Composition and Analysis. By A. WYNTER BLYTH, M.R.C.S.Eng., F.I.C., F.C.S. Fourth edition, revised and enlarged. London: Charles Griffin and Co., Limited, Exeter-street, Strand. 1896. Price 21*s.*

WITH very few exceptions the adulteration of food is no longer a clumsy practice; it has become an art the resources of which are oftentimes exceedingly subtle, and which aim at precluding as far as possible the analyst from discovering the existence or exact extent of the fraud. In this matter the public owe a debt of gratitude to the Society of Public Analysts for bringing to light new methods of fraud and for placing at the disposal of the public analyst new and more accurate methods for its detection. The same admirable end is advanced by Mr. Wynter Blyth's most valuable work, inasmuch as it affords a safe guide and complete reference on this most important section of the subject. Further, Mr. Wynter Blyth is qualified as barrister, medical officer of health, and analyst, so that his work combines a practical knowledge, not merely of the chemistry of the subject, but also of its legal and its hygienic aspect. It was inevitable that a new edition would have to undergo considerable revision and enlargement in view of the enormous progress made in recent years in analytical chemistry, especially in its application to the examination of foods, but the author has succeeded remarkably well in keeping the dimensions of the volume within the limits of handy size. Nor is this at the expense of useful material or of latest developments. There are references, we find, as recent as a few months ago—as, for example, to Mr. Dibdin's paper read before the Society of Public Analysts relating to an improved method of microscopically examining and estimating the suspended impurities of water. The chapter on Water is an illustration of the important advances that have been made since the issue of the previous edition in estimating the fitness of a supply for drinking purposes. Thus the cultivation methods which are of service in differentiating pathogenic from non-pathogenic organisms in water are plainly described. In the section on Cocoa we observe that the author does not animadvert upon the use of alkali, while in the chapter on Coffee no reference is made to the so-called "essences." It

is well known that many of these are worthless, but honest preparations are also to be had. A tradesman has no right to sell a preparation stated to be made from coffee into the composition of which coffee never at any time or in any form entered. Coffee essences, we think, should be subject to the operation of the Act. In the description of the methods used for the detection of adulterated butter the glycerol soda modification of the Reichert process is omitted. The process offers important advantages, not the least of which is the saving of time in effecting complete saponification. A description of Lovibond's tintometer would have been useful in the section on Colour. We believe this instrument will be of distinct service in the valuation of foodstuffs when its merits have been scientifically investigated. Finally, we should like to have found a chapter generalising on the use of antiseptics as preservatives of food. Mr. Blyth's work is simply indispensable in the analyst's laboratory, where it will prove, as we have found it to prove, a constant and reliable source of reference on all matters pertaining to the practical examination of food.

Public Health Laboratory Work. By HENRY R. KENWOOD, M.B.Edin., D.P.H., F.C.S. Second edition with Illustrations. London: H. K. Lewis, 136, Gower-street, W.C. 1896. Price 10*s.* 6*d.*

THIS useful manual has run into a second edition, and the few blemishes (mostly technical) occurring in the first edition have been eliminated, while some processes described before have been replaced by others "and a considerable amount of new material has been added without increasing the size of the book." As its title implies, the work is one essentially for the bench, and the processes described are reliable and the conclusions on the whole are sound. In Chapter IV. the author enters a vigorous and, to some extent, plausible defence in favour of the value of a chemical examination as an aid in diagnosing impure water supplies. He regards organic impurity in quantity detectable by chemical analysis as an inevitable concomitant of specific micro-organisms. This view receives little support, however, in practice, as, for example, in the case of the contamination of the Worthing supply a few years ago, which led to a disastrous epidemic of typhoid fever. A chemical analysis by Dr. Dupré led this water to be regarded as free from reproach, but a bacteriological examination by Dr. Klein reversed this opinion. The author obviously makes a confusion of statement on page 145 when he states that alkaline waters naturally charged with carbonic acid contain sodium carbonate and bicarbonate. The only printer's error we noticed occurs on page 15, where methyl orange is spelt "meityl" orange. The book very suitably meets the needs of students preparing for examinations in public health.

LIBRARY TABLE.

The Co-Education of the Sexes. By MABEL HAWTREY. London: Kegan Paul, Trench, Trübner, and Co., Limited. 1896.—This is a sensible book by a sensible woman. Miss Hawtrey has gone thoroughly into the subject and comes rightly, we think, to the conclusion that the co-education of the sexes is not desirable except in the case of quite young children or of young men and women, but that for boys and girls during the years when they are developing it is unsuitable. There are two separate chapters upon the education of boys and girls respectively which are well worth the attention of parents and guardians. Miss Hawtrey disapproves strongly of corporal punishment for girls. It either, she says, damages their nervous systems or else hardens all sensitive feeling so as to destroy their feminine instincts.

Practical Chemistry. By STEVENSON MACADAM, Jun., F.I.C., F.C.S. Second edition. Edinburgh: Printed at the Darien Press. 1895.—The object of this "short treatise" is evidently to enable the student to proceed to practical work, as the examination of simple salt, before he has grasped general principles. This is clear, from the remark in the preface that the formulæ expressing the nature of the reactions have been relegated to the end of the book, "so that the student, while doing actual practical work, may not be troubled (*sic*) with matter which is not practical and which he cannot properly comprehend till he has become somewhat advanced." We do not approve of this topsy-turvy plan, although doubtless the book itself is a good practical guide.

The *London Manual*, 1896–97, published at 125, Fleet-street. Price 1*s.*—London now covers such a large area and the governing machinery is so complicated—we believe there are over 400 governing authorities—that a manual explaining the functions and describing the work of all the public bodies in the metropolis and suburbs must be useful to all citizens. The second edition, which lies before us, contains the names of the vestrymen elected last month, thus bringing this excellent new year-book thoroughly up to date. The book also contains a great deal of information which while not necessarily relating to public bodies is of interest to householders.

Guy's Hospital Gazette (Festival Number).—The editors of this journal, have, with that energy and acumen which characterises them, issued a special Festival Number. It gives a full account of the great festival dinner and an interesting sketch of the history of the hospital. We observe an apology for the cloak-room arrangements at the dinner. That these were very defective there is no doubt, but we see that they were under the control of the Institute authorities who are not infrequently remiss in such matters.

JOURNALS AND REVIEWS.

The Journal of Experimental Medicine. Edited by WILLIAM H. WELCH, M.D. Vol. I., No. 2, April, 1896. New York: D. Appleton and Co. Subscription price per volume £1 1*s.*—The articles contained in this number are: 1. A Study of the Bacillus (Leptothrix?) Pyogenes Filiformis (Nova Species) and of its Pathogenic Origin, by Simon Flexner, M.D., with a plate. This pleomorphic micro-organism is described with much care. It was found in a laboratory rabbit, and the infection appeared to have taken place after delivery by the genital tract. The bacillus stains irregularly with all the aniline dyes. It is non-motile and is killed by exposure for five minutes to a temperature of 55°C. Inoculations made with it proved fatal, many abscesses resulting in different organs. 2. Observations on the Innervation of the Sublingual and Submaxillary Glands, by G. Carl Huber, M.D., of Michigan. Dr. Huber has employed the double Golgi-Cajal and the Ehrlich-Bethe methods of staining with very good results. He is in general accord with Langley in the presence and character of the ganglion cells found in connexion with the chorda tympani and the submaxillary ganglion. The axis-cylinder processes of the lymphatic cells of the submaxillary ganglia may be seen to be continuous with small bundles of thin nerve fibres many of which are varicose and run along the side of the ducts. The smaller ducts come to be surrounded by a tolerably dense plexus of fine nerve fibres. From the plexus strands of two, three, or more fibres, or single fibres, are given off and can be followed between the alveoli, where they unite to form a perialveolar or epilamellar plexus. The ultimate fibrils seem to end on or between the gland cells in minute nodules or granules. The sympathetic fibres accompanying the gland artery end on

the vessels. 3. W. T. Porter: A New Method for the Study of the Intra-cardiac Pressure Curve. This is an ingenious arrangement of two Hürthle membrane manometers, one of which is connected with one tube of a double cannula and can by contact with a pair of cups containing mercury make a magnet close a stopcock connected with the second tube of the cannula. By altering the position of the lever of the first manometer and thus changing the moment at which the wire shall make the circuit and open the second manometer any particular part of the intra-ventricular curve can be studied. 4. The Rotary Properties of some Vegetable Proteids, by Arthur C. Alexander, Ph.D. The proteids examined were hemp globulin and the globulins obtained from flax and the Brazil nut. 5. Thomas B. Aldrich, Ph.D.: A Chemical Study of the Secretion of the Anal Glands of Mephitis Mephitica (Common Skunk), with remarks on the physiological properties of the secretion. 6. F. S. Conant and H. L. Clark: On the Accelerator and Inhibitory Nerves to the Crab's Heart. 7. Lewellys F. Barker: A Case of Circumscribed Unilateral and Elective Sensory Paralysis—that is, one in which only certain of the functions of the sensory nerves are abolished.

In the *Veterinary Journal and Annals of Comparative Pathology* for June is reproduced Nocard's account of An Experimental Study on the Translucent Tubercles of the Lung in Glandered Horses. This is especially interesting from the fact that in animals in which the symptoms of glanders are doubtful, but which react to mallein, there are discovered on post-mortem examination translucent tubercles which contain very few glanders bacilli, and which, therefore, have sometimes been overlooked as resulting from the action of this organism. Glanders in which such tubercles are present can apparently be cured, in a certain proportion of cases at least, by the injection of mallein. Another important point brought out in this paper is that glanders is easily propagated through the digestive organs. A couple of the notes in this number of the journal are strictly controversial and have to do rather with the rivalry which exists between the *Veterinarian* and the *Veterinary Journal* than with the outside veterinary and medical public. The suggested amendment of the Public Health Bill for Scotland as regards the employment of veterinary surgeons in the inspection of live stock in connexion with public health is again alluded to. A case of Tuberculosis in the Horse is described and many clinical cases are recorded. The remainder of the number is made up of reports of various veterinary associations, which seem at present to be concerned mainly with the question of veterinary education.

METROPOLITAN PROVIDENT MEDICAL ASSOCIATION.

A WELL-ATTENDED meeting was held at Surrey House on the 11th inst. to bring before the public the claims of the Metropolitan Provident Medical Association on its support, financial and otherwise. Lord Battersea, who presided, stated in his opening remarks that the Association had now nineteen branches, ten of which were self-supporting; it had about 35,000 members enrolled, who contributed nearly £5000 a year in periodical payments. Lord Stamford moved the first resolution, to the effect that the work of the association was thus a great social benefit to the community. Mr. Claude Montefiore, in seconding, gave a clear account of its object, which, he said, was to provide medical aid, not for paupers, or for persons able to pay the ordinary fees of respectable medical practitioners, but for that vast class of people which lay between the two. It had two principles, and must prove that it was carrying out both before it could claim the help of the public: on the one hand it must promote thrift, and on the other it must supply good medical treatment. It must also deal fairly with the medical profession, without whose help and coöperation it could not carry on its work, and must protect the interests alike of its patients and of its medical staff. In view of this latter object it was careful to maintain a wage limit. Referring to the recent loss of that great philanthropist Baron de Hirsch, Mr. Montefiore mentioned that his munificent gift of £3000 made some few years ago had borne good fruit in the establishment of several flourishing branches. Dr. Hett spoke to the resolution from the point of view of a medical officer connected for twenty-two years with a provident dispensary. He spoke strongly of the benefit which had accrued to this dispensary when some years ago it was affiliated to the association, and mentioned with approval the principles which provide for the adequate representation of the medical staff on the local committee and for the payment of the medical men as a first charge on the funds of the dispensaries. He bore testimony also to the cordial relations which had always existed between himself and the members under his care.

Mr. W. F. Lawrence, M.P., moved the second resolution, which stated that the gratuitous and sometimes indiscriminate treatment of persons in the out-patient and casual departments of hospitals results in the creation of a pauperised spirit among the industrial classes, and that this evil is best met by the establishment of self-supporting provident dispensaries in coöperation with the hospitals.

Mr. Lucas, chairman of the Great Ormond-street Children's Hospital, urged the necessity and possibility of coöperation between the hospitals and the association in dealing with the out-patient problem.

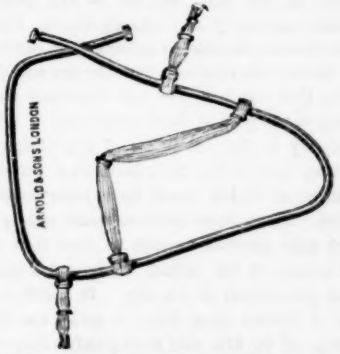
Mr. Bousfield, chairman of the association, in thanking Lord Battersea for presiding, remarked that they had learnt much in their experience of nearly twenty years, and had now, he believed, done a great deal towards solving the difficult and important question of the provision of medical relief for the industrial classes and deserved the support given them by the late Baron de Hirsch, the trustees of the London Parochial charities, and others.

New Inventions.

A CARDIAC CYRTOMETER.

AFTER delimitation by percussion, auscultation, and palpation of the area of cardiac dulness, some physicians have used transparent paper for preserving a permanent reading of the outlines thus obtained. I have found it more convenient in practice to employ a piece of flexible tubing such as that used in Leiter's instruments, or a piece of metal capable of being easily adapted to the area mapped out, just as a similar cyrtometer is used to ascertain the shape of the thorax.

Messrs. Arnold and Sons of West Smithfield have constructed a cardiac cyrtometer for me furnished with strands of silk bearing metal rings which, in addition to enabling



one to note the dimensions of the heart, afford a means of noting accurately the relative position of the organ to such points as the episternal and xyphoid notches and the nipple, and also the extent of the superficial cardiac dulness. This simple instrument occupies little bulk, and by its means the above facts may be transferred by a pen or pencil to an ordinary notebook without the use of transfer paper.

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THE LANCET.

LONDON: SATURDAY, JUNE 27, 1896.

TEN years have passed since the General Medical Council was reinforced for the first time by representatives sent up to it directly from the whole profession. Until the Medical Act of 1886 the Council was composed entirely of the nominees of the various universities and corporations of the United Kingdom and certain persons selected by the Crown. When the duties which fall upon the General Medical Council are recalled, it will be patent to all that the source from which the addition to its strength was drawn was most reasonable. It is the five-fold business of the Council (1) to supervise medical education; (2) to inspect medical examinations; (3) to issue the British Pharmacopœia; (4) to keep a correct Register; and (5) to purge that Register of unseemly names by sitting in judgment upon the professional behaviour of persons contained in it. The second, third, and fourth of these duties might be efficiently discharged by a deliberative assembly of scientific scholiasts and experienced examiners—we speak in the abstract and without personal reference to the present Council—with adequate clerical assistance, although the general body of the profession would still feel that they had an undeniable right to a voice in a matter of such extreme importance as the conduct of the tests which the aspirant to professional enrolment must undergo. But the first and fifth duties clearly demand from the Council a more intimate knowledge of the practical side of the medical man's life than an assembly whose learned pedagogy was unleavened could be expected to display. To supervise the complete education of the profession requires more than the habits of the schoolmaster or the learning of the professor. It requires a knowledge of the after-life of the rank and file of the profession. The examiners, generally and rightly drawn from the consultant classes, are able to provide that candidates should attain to a certain standard, but they are not able to gauge whether that standard does not sometimes necessitate the learning on the part of those candidates of things that are unnecessary in the real battle of life, while perhaps there have been omitted from their curriculum certain things the knowledge of which would have been found valuable in practice. Direct representatives would rightly look upon it as their more particular charge to warn their colleagues on the Council of the actual equipment required by the general practitioner of the day. In a still greater degree should it devolve upon them to assist the Council in the discharge of its fifth and most painful duty—the management of penal cases. Here the representatives of the general practitioner have been of the utmost use in the deliberations of the Council, for it is the general practitioner who suffers most severely from the evils that are the outcome of improper rivalry and the absence of a high moral tone.

The present occasion is apt to the discussion of the question of direct representation because an election of direct representatives to the General Medical Council is imminent and because there will be on this occasion an introduction of new blood into the Council. Mr. WHEELHOUSE and Sir WALTER FOSTER, whose joint letter to the profession we published last week, have definitely decided not to offer themselves for re-election. These two gentlemen were, with Dr. JAMES GREY GLOVER, the original choice of the profession when first the boon of direct representation was granted. They have served two terms of five years, and in so doing have earned the gratitude of their enormous constituency by their aptitude for business and their devotion to the interests of the profession at large. It is with regret that we have learned their intention to retire, and we desire to record our belief that the reason why direct representation has been a success is as much because of the ready manner in which the first representatives of the profession at large fell into the work of the Council as because the principle on which their admission to the Council was granted is obviously fair and liberal. The profession will therefore have to select for itself two new representatives at least (for Dr. GLOVER, as will be seen by his letter which appears on page 1820 of the present issue, is offering himself for re-election) and at this juncture we cannot do better than repeat the words of Mr. WHEELHOUSE and Sir WALTER FOSTER in their letter of resignation—"..... We would urge you," they say, "to make very deliberate and careful choice of your future representatives, remembering the high order of the duties the Council is called upon to exercise, and when you have elected them to give them that moral support without which it is impossible for them efficiently to represent you." It is our duty to further such wise selection, and there is in our mind no doubt whatever that the first essential of a good direct representative must be that he should be in general practice. Let no one consider that this expression of opinion can be interpreted as a slight upon the services of Mr. WHEELHOUSE and Sir WALTER FOSTER, which we are fresh from extolling. Both these gentlemen were fully conversant with the wants of the general practitioner, and should anyone come forward possessing their knowledge of the *morale* and working of the profession his claims to be considered a good candidate would rank very high. But Mr. WHEELHOUSE and Sir WALTER FOSTER were pioneers. The new representatives will have the benefit of their example, and as they will be the choice virtually of the general practitioners of the country it is fitting that they should be themselves members of that order.

Three gentlemen place their names before the profession in our columns this week as candidates for the suffrages of their fellow practitioners, and there will certainly be additions to this number. Dr. GLOVER may confidently expect re-election, we hope. He shares with his two retiring colleagues the honour of having been an original representative and of having worthily supported the principle of direct representation. His work on the Council has been energetic and good, and his critical remarks on the reports of inspectors of examinations (embodied in the form of a statement to the Council under the title of "Gaps in

Medical Education") led to discussions upon which followed directly the extension of the curriculum to five years. Dr. GLOVER was also chairman of the committee of the Council which investigated the working of the medical aid associations and made itself aware of the evils associated with these institutions. These evils have recently been made very palpable to the profession by the series of articles which has appeared in our columns entitled "The Battle of the Clubs." The great interest which has been taken in this question by the profession proves its extreme importance, upon which we need scarcely lay any further stress; but this fact warrants us in saying that any candidate desiring to represent the profession must have the salient points of the question tightly in his intellectual grasp to be a good candidate. There remains one more reason why the profession would do well to re-elect Dr. GLOVER as one of their three representatives. It is apart from the work that he has done, it is apart from his special fitness for the post, it is a reason of expediency. It would be a pity that all the original direct representatives should be absent from the Council at once. With a break in the line there would be an absence of traditional experience and a loss consequently of power and of knowledge. We hope, therefore, that Dr. GLOVER will meet with the support that he seeks, and that there will be associated with him two practitioners not residing in London. As will be seen, the Lancashire and Cheshire Branch of the British Medical Association have passed a resolution approving the candidature of Dr. GLOVER, Dr. LOVELL DRAGE of Hatfield, and Dr. WOODCOCK of Manchester.

THE Committee which was appointed in 1892 by the Royal College of Physicians of London to revise the "Nomenclature of Diseases" has at length completed its labours, the result being the publication of the third edition of a work which deserves to be regarded as of the first importance to the profession of medicine both at home and abroad. The book, which extends to more than 500 pages, has been issued by HER MAJESTY'S Stationery Office, and we understand that the Treasury has sanctioned the gratuitous supply of a copy of it to every member of the medical profession whose address can be ascertained. The idea that led, nearly forty years ago, to the projection of a nomenclature of disease which should possess a national, or rather an international, character originated in the Army Medical Department, through whose representations, supported by those of the Hospitals Committee of the Epidemiological Society, the Royal College of Physicians of London was induced in the year 1857 to undertake the preparation of a Nomenclature of Diseases, on the understanding that it should be subject to periodical revision. The work was commenced forthwith, but in 1858 the meetings of the committee appointed for the work were suspended for five years in consequence of the passing of the Medical Act and the alterations thereby necessitated in the constitution of the College. The meetings were, however, resumed in 1863, but it was not till 1869 that the first edition of the Nomenclature was published.

The work of revision has evidently on this occasion been an exceptionally heavy one and has occupied four years from its inception in the early part of 1892. The details have been carried out in sections, the various groups of diseases having been dealt with by as many as twenty-four separate sub-committees. From the preface we learn that in the opinion of the Revision Committee one of the chief uses of the statistical registration of diseases on a wide scale is that it must tend to throw light upon the causes of disease, many of which causes, when duly recognised, may be capable of prevention, removal, or diminution. When a general and uniform nomenclature of disease has once been carefully framed, when we are sure that medical observation is occupying itself everywhere with the self-same diseases, the value of statistical tables becomes very high, as representing the course of events in disease under various circumstances of time, place, climate, &c.

The edition of the Nomenclature just issued, like its two predecessors, is suitable to all countries where the English language is in common use. For each name of a disease the corresponding term has been supplied in Latin, the fittest language for a nomenclature common to all the world. The equivalent terms in French and German have also been added as being the modern languages which are richest in medical learning and literature. It has been decided after careful consideration to omit the Italian version, since the Italian names of diseases do not differ greatly from the Latin on the one hand or the French on the other. In settling the list of names of diseases the least possible deviation has been made from those employed in the General Register Office of England, for otherwise the special forms there in use, which in their main features have varied little during the last half century, would require re-modelling or perhaps complete reconstruction. And, worse than this, the comparison of future with past returns would become perplexing, if not impracticable, and a damaging break would be caused in evidence which, in proportion as it is prolonged and continuous, becomes more and more trustworthy.

As regards classification, the general plan of the Nomenclature remains the same as in former editions. Diseases, in the aggregate, are divided into two chief categories—(1) general diseases, in place of the "morbi corporis universi" of the last edition, and (2) local diseases. But further division into groups and sub-groups, after the manner of the previous edition, has, we think, wisely been omitted on the ground that accuracy of nomenclature, rather than pathological classification, is the object to be aimed at in a work of this kind. Among changes made in the present edition in the classification of diseases we notice the restriction of the term "anthrax" to the disease previously named splenic fever or wool-sorter's disease, and the relegation of the morbid condition carbuncle, which had been previously confounded with anthrax, to a separate category. The disease formerly termed epidemic rose rash is now termed "Rubella," in deference to the opinion of physicians specially skilled in the diseases of children, the old name rötheln being still retained as a synonym. Diabetes insipidus (polyuria) and tetanus are now for the first time admitted as new names in the division of general diseases.

The section on Nervous Diseases has been entirely recast,

and so likewise have those relating to Diseases of the Digestive, Respiratory, and Integumentary Systems. The section on Surgical Operations has been rearranged, as has also the section on Malformations. The enumeration of tumours and morbid growths has undergone fundamental alteration in order to bring this group into harmony with modern classification. The class "cysts" has been retained in deference to usage and to the needs of registration, although it necessarily overlaps some other divisions of the nomenclature.

In the present edition the English has, for the first time, been separated from the Latin index. The English index, which is in some senses the real nomenclature, includes every name used in the work, and the Latin index, which is intended as a guide to those readers who are not conversant with the English language, contains the terms used in the Latin version of the nomenclature. Not being intended for purposes of registration the Latin is less complete than the English index, but it nevertheless contains the names of all distinct diseases and references to the chief divisions of the work. We must not omit to mention that the Latin version of the nomenclature, which had been commenced by Dr. GREENHILL, has been completed since his untimely death by Dr. PERRY, whose well-known ability as a classical scholar is a guarantee for the correctness of his work. The entire volume has been edited by the honorary secretary, Dr. PAYNE, upon whom, of course, has devolved the greater part of the labour of its compilation. In congratulating Dr. PAYNE and his colleagues on the completion of the present edition of the Nomenclature we may remark that it bears evidence of unusual care and thoroughness in its preparation. It is a piece of solid, valuable work, and we cannot speak of it in higher terms than by saying that it fully sustains the high character attained by the two editions which have preceded it.

THE calamitous loss of the *Drummond Castle* off the coast of Brest last week, with its tale of upwards of 240 persons drowned, suggests many reflections of various kinds. Some of these can only be advantageously discussed by navigators and naval architects, yet when these have said their say there will still be lessons to be drawn and enforced which have no reference to any technical questions, but reflect rather upon the system under which ocean traffic is carried on at the present day. It is, indeed, one of the most striking features of the present disaster that, meagre as are the details as yet made known, or indeed ever likely to come to light, they seem to prove conclusively that the terrible accident was not inevitable, but, on the contrary, might have been avoided by the exercise of sufficient caution. In saying this we do not cast the smallest blame upon the master or navigating officer of the ship. If it should hereafter become necessary to throw blame upon them it will be only after careful inquiry and on a basis of fact not yet made public. We do not, as at present informed, doubt that the ship was handled and navigated in accordance with the best professional practice, and it is on that account that we think it necessary to call attention to a state of things more dangerous than mere incompetency on the part of individuals because it is embodied in a system and affects the entire profession of the sea, good and bad alike.

The facts to which we refer are these. The great ship, equipped with most of the appliances that science can provide for the safety of her passengers, was nearing the completion of her voyage. She fell in with rainy weather upon a rocky coast and was carried far out of her course by cross-currents. In all other respects her circumstances were happy, and these are among the slightest and most ordinary of the inconveniences which beset the traffic of the sea. No one could imagine that any serious danger lurked in trifles such as these. Even the proximity of the coast ought not to have occasioned any inconvenience, for the coast is well lighted and the charted course lies at a safe distance from it, although near enough for the ship's bearings to be accurately determined by the assistance of the lights. Under such conditions a serious mishap is a bare possibility and nothing more, and that this is no merely theoretical view but one borne out by experience is proved by the fact that a wreck like that of last week is almost unprecedented, notwithstanding the enormous traffic which passes Ushant every year. Why, then, was the ill-fated *Drummond Castle* an exception to the all but invariable rule? The answer will come at once to light if we consider what precisely was happening on the captain's bridge upon that fateful evening. We have it on the testimony of the survivors that the captain was himself there, and it may be added with confidence that he was looking out for the Ushant light. It is a notably powerful light and can be detected forty or fifty miles away; nor is cloudy weather unfavourable to its efficiency, for at these great distances the light itself lies below the horizon and its whereabouts is betrayed only by the glare which it throws upon the clouds. Thus in cloudy weather it is, other things being equal, visible at a greater distance than when the sky is clear. In thick weather a syren supplements the obscured light. Now the commander of the *Drummond Castle* must have known as soon as darkness fell upon him and the Ushant light failed to shine out that he was out of his reckoning, and he must also have known that he was approaching more or less near to the French coast. The sense of danger must, therefore, have impressed itself upon his mind and the importance of ascertaining his exact position cannot have escaped him. Why did he not do so? The means were ready to his hand, for although sky and lighthouse were both obscured the sea bottom was within thirty fathoms of him, and his sounding line would have enabled him to ascertain his whereabouts just as well as his sextant if that had been available. If those means failed him there was still a perfectly secure course open to him, he might have put about and sailed into the open sea until such time as a view of the heavens gave him the opportunity of determining his position afresh and making a fair start for home. That he contemplated adopting some such course as this may be taken for granted, but unhappily be delayed adopting it until too late. Why this tenacity in the face of danger? Why this hesitation to admit that a voyage prosperous on the whole has not been wholly prosperous?

The answer doubtless is to be found in the success of our modern navigation. Steamers come and go by the

clock, and even after extended voyages like that from the Cape, they arrive, in the ordinary course, according to appointment with an exactitude that is wholly admirable. But such perfect working involves a certain amount of inconspicuous risk. With a standard of performance such as that to conform to the ship's master shrinks as from a crime from anything that involves the least delay and a deviation from his course seems to him, and naturally enough, to be a disguised calamity. When the alternative is deviation he naturally prefers to take some small risk and if now and again the risk is greater than he knows that is no great blame to him. How often a prosperous voyage is beset by little perils of this sort and is prosperously completed in spite of them sailors alone know. But what the public is concerned to ascertain is that those who encourage and require the mariner to follow the shortest course and keep time with the precision of a clock should also make it clear that he must not trust to his good fortune or economise time and coal at the expense of running even the smallest risk to the life of the ship and her passengers. Had there been a less inexorable rule about the date of arrival in port or a more inexorable one about keeping on the safe side of the charted course the captain of the *Drummond Castle* would not have needed to hesitate so long about taking strong measures with his errant ship and the great sorrow of this terrible shipwreck would not have fallen on two hemispheres.

Annotations.

"Ne quid nimis."

THE CASE OF SURGEON-CAPTAIN FOWLER.

ON the House of Commons going into Committee of Supply on the Army Estimates Sir Walter Foster moved the reduction of the salary of the Secretary of State for War in order to call attention to the case of Surgeon-Captain Fowler. A lively debate ensued, but we fail to see that any satisfactory explanation was afforded in the course of it to justify the severe measure that was adopted in regard to that officer. Surgeon-Captain Fowler had nearly ten years service and an unblemished record when, unfortunately for him, he was sent to Sheerness in June of last year to do duty in the camp there on the occasion of the training of a Militia regiment. The name of this regiment was not mentioned in the debate, but it is quite clear that some proceedings of a disgraceful nature occurred rendering it absolutely necessary to deal very severely with several officers who took part in them. This should not, however, be allowed to prejudice the consideration of the case of Surgeon-Captain Fowler. It appears that this officer's presence on the occasion was accidental and did not extend over a few minutes; that so far from in any way aiding and abetting the officers concerned he at once protested against the proceedings and succeeded in putting a stop to them; and that he appealed to the senior captain present, who at Surgeon-Captain Fowler's instigation undertook to report the matter to higher authority. We fail to see that so far any exception can be taken to the course this officer adopted. A court of inquiry was subsequently held, but we are not informed of what actually took place, or of the exact nature of the evidence given, beyond the fact that it is alleged there existed a sort of conspiracy among the officers concerned to conceal the truth from the authorities. We are not told whether Surgeon-Captain Fowler took any, and if so what, part in this concealment or misrepresentation of the real facts of the case. As far as we can understand—for the Under Secretary for War was very reticent and guarded in his statements—Surgeon-Captain Fowler is stated to have failed in his military duty in not having frankly and conscientiously stated all that he knew of the circumstances, with the names of those who were present on the occasion—of having, in fact, tried with other officers to hush up the whole affair. But it is quite possible that, without any idea of concealment or unworthy motive, Surgeon-Captain Fowler contented himself with stating the course he had already adopted in the matter. Mr. Brodrick did not seek to impute anything against this officer's professional character, but in respect of his sense of military duty and responsibility he did. The case, he added, had been fully considered, and every official, civil or military, felt the necessity of taking severe measures, and he went on to detail the punishments that had been inflicted upon numerous officers in order to show that Surgeon-Captain Fowler had not been exceptionally dealt with. There is no doubt that the matter was a very grave military scandal and that all the actors in it deserved to be most severely punished; but the point to be proved as regards Surgeon-Captain Fowler is whether he took any part in those proceedings beyond promptly protesting against them and stopping them, and reporting the circumstance to the senior combatant officer present and obtaining his assurance as to the action he would take in the matter. Why were not all the officers concerned tried by court martial, or if this were not deemed expedient in the public interest why was not the case—as regards Surgeon-Captain Fowler at any rate—submitted for the opinion of the law officers of the Crown or of the Judge Advocate General? Had either of these courses been adopted no doubt would have existed as to what were the real facts of the case, whereas there is, as Sir H. Campbell Bannerman very properly urged, considerable doubt in the minds of many people as to whether an injustice has not been done to an excellent and deserving medical officer.

THE UNIVERSITY OF LONDON.

A MEETING of Convocation of the University of London was held on Tuesday, the 23rd inst., when technical details of procedure formed the main business before the meeting. The election of a Fellow of the University—i.e., a member of the Senate—also took place, and much curiosity was felt as to the result of the election. By a tacit arrangement a Fellow is alternately selected in Arts and Laws and Medicine and Science whenever a vacancy has to be filled by Convocation. On this occasion it was the turn of the latter faculties, and so Sir Joseph Lister and Mr. Rivington were nominated. Both are graduates of the University, and Mr. Rivington was successful, obtaining a majority of 117 votes: 846 graduates voted for Sir Joseph Lister, and 963 for Mr. Rivington. The contest was throughout carried out on strictly political, as distinct from professional, lines. Sir Joseph Lister was brought forward as a candidate by those graduates who wish to see the present University transformed by having a Teaching University added to it, as recommended by the Cowper Commission, which also recommended that a Statutory Commission should be appointed to carry this out. Mr. Rivington's views are that the existing University should continue its useful work as an Imperial Examining Board and that a Teaching University should be a separate institution. He also urges that if any scheme of reconstitution of the University of London be adopted, it should be by charter in the usual manner and not by the exceptional method of a Statutory Commission. His election on Tuesday evidently shows that this is in accordance with the opinions of the majority of the graduates and will make the Lord President of the Council hesitate still longer before he accedes to the wishes of those who

urge him to appoint a Statutory Commission forthwith. It is regrettable, we think, that the election of a Fellow to represent the Faculty of Medicine in the Senate should be determined by such sectional differences, but with the existing tension of feeling in the University we see no way out of the difficulty. The Faculty of Arts, with its large and increasing majority of votes, has the decision in its hands, whatever may be the opinion of the medical graduates.

KING'S COLLEGE: PRESENTATION TO PROFESSOR CURNOW, M.D.

LAST Tuesday afternoon the operating theatre at King's College Hospital was the scene of an interesting ceremony on the occasion of a presentation to Dr. Curnow by his old pupils and students on his retirement from the office of Dean of the Medical Faculty after thirteen years' service. The chair was occupied, and the presentation made, by Mr. P. T. B. Beale, F.R.C.S. Mr. Beale, in making the presentation, referred to Dr. Curnow's valuable services in the department, laying particular stress on the kindly sympathy which the late Dean had invariably shown towards students who confided in him. Many a man at present in a position of importance might be said to owe his success in life to Dr. Curnow's kindly guidance and sound advice. The presentation consisted of an illuminated scroll, containing the names of many students past and present who had pursued their studies during his tenure of office, a handsome silver salver suitably engraved, and a complete tea and coffee service of very handsome workmanship and design. The subscribers were limited to those who had been students at the hospital during Dr. Curnow's deanship. Dr. Curnow, in warmly thanking the subscribers and those present for their great kindness, assured them that he would, as in the past, do anything he could to assist them in the pursuit of a peculiarly arduous profession.

THE PERILS OF DOING GOOD.

UPON June 19th, in the Southern Divisional Police-court of Dublin, Mr. Auchinleck of Harcourt-street was charged before Mr. Swifte, Q.C., with having committed an assault on a married woman named Lepper in the month of February last. Mrs. Lepper stated on examination that she was twenty-three years of age, married for about thirteen months, and had no children. Having suffered from illness last February she was recommended to consult Mr. Auchinleck and did so on two occasions, on the second of which she was assaulted. Mr. O'Shaughnessy, Q.C., in addressing the Court said that it was a fortunate thing in the interest of truth and to prevent the occurrence of shameful blackmail actions that he was entitled, under the Criminal Law Amendment Act of 1885, to examine the defendant, who would tell his worship that the woman first consulted him in the ordinary way; that on a subsequent occasion she requested to be examined and was examined, and that he had never used the expressions or done the acts imputed to him. There was a long delay about these proceedings. There were present in court two medical gentlemen of the highest eminence in their profession in the city, who would state that medical men had often the greatest difficulty in dealing with the maladies peculiar to women, and that charges such as had been made on the present occasion were very frequently made against medical men under similar circumstances. Mr. Auchinleck, the defendant, was now examined and deposed to the facts put forward by counsel, stating, moreover, that he had been for twenty-three years practising in the city of Dublin, his practice being largely in connexion with midwifery; that he was married and had a wife and five children who lived with him; and, finally, that in cases of this kind, leaving the question of blackmail out of the question, it was a fact well known in the profession that medical men never knew what women might possibly say or do. Dr. William Josiah Smyly, master of the Rotunda Hospital, and Dr. More Madden, obstetric physician to the Mater Misericordiæ Hospital, were also examined and supported Mr. Auchinleck in his statement that charges of the sort were likely to be made by married women under similar circumstances and that, in fact, it was one of the dangers connected with the treatment of married women suffering from such maladies. Dr. More Madden stated that he considered this woman to be labouring under a hallucination. Mr. Swifte, in dismissing the case, said from the bench that the question for him was whether he thought a jury would convict in the case of a man of irreproachable character favourably known in the city for twenty-three years. He thought that the delay in taking proceedings and the fact that Mrs. Lepper did not give any alarm or make any complaint at the time would weigh very much in the matter and prevent any jury from convicting in the case. We congratulate Mr. Auchinleck upon the result of this case. Charges of this kind are so easy to bring and so hard to refute that we almost think the wisest course would be for medical men to refuse to examine women except in the presence of a third person.

THE POLLUTION OF THE RIVER BRENT.

MOST Londoners, especially skaters, are familiar with that body of water known as the "Welsh Harp" reservoir, but probably it is not so generally known that the "lake" in question, which feeds the Regent Canal, was brought into existence by constructing a dam across the valley of the River Brent. One of the effects of this work has been to divert from the natural bed of this river much of the water which formerly found its way into it, and hence any pollutions of the stream are less diluted than they would otherwise be. The river, if such water as is let out from the reservoir can be dignified by that name, passes through or abuts upon several sanitary districts, and amongst them may be mentioned Willesden, Ealing, and Hanwell urban and Hendon and Brentford rural. Within recent years complaints as to the condition of the river hereabouts have been loud and long, and in 1893 Dr. Monckton Copeman, a medical inspector of the Local Government Board, made an inspection of the river. Dr. Copeman had no hesitation in pronouncing the condition of affairs eminently unsatisfactory. He found the bed of the river for some 300 yards below the reservoir completely dry, with the exception of two small pools some ten feet in diameter, and apparently no water had left the reservoir in this direction for several weeks. On following the bed of the channel for some distance down Dr. Copeman came upon what he states was practically, at that time, the source of the River Brent—i.e., the effluent of the Willesden sewage farm, samples of which contained much suspended matter and gave off a faint sickly smell. A short distance further down "the whole bed of the stream was absolutely black as if a river of ink had been flowing over it," a condition of affairs produced, it appears, by decomposition of the sewage effluent. At the point near to which the Grand Junction Canal crosses the Brent Dr. Copeman found "enormous heaps of London refuse" which, draining into the stream, fouled it to an extent which could only, he says, be appreciated by inspection. Further down the stream other pollutions were discovered, but it is needless to recapitulate them. Suffice it to say that Dr. Copeman reported amongst other things that the sewage effluents from districts abutting on the stream are for the most part "decidedly unsatisfactory," and that throughout the course of the stream crude sewage and putrescent fluids are discharged. In a word, the stream is much polluted and the abstraction

of water by the Regent Canal Company accentuates the nuisance. This condition of affairs should obviously be put an end to without delay. The fact of pollution is practically established by disinterested testimony. Who is to remedy it? The sanitary authorities whose districts abut on the stream have powers and responsibilities under the Rivers Pollution Acts; the Middlesex County Council has powers under a Local Government Act, 1888; and the Thames Conservancy is surely interested. Inasmuch, however, as some of the sanitary authorities are themselves contributing to the pollution, it appears to us that the authority best fitted to take action in a comprehensive sense is the Middlesex County Council, and we trust that they will awaken to the necessities of the situation. Obviously Dr. Copeman's report will be a most valuable weapon in their hands, and we are glad to see that the Hanwell Urban District Council is endeavouring to stir matters up.

ACTION AGAINST A DISTRICT COUNCIL.

AT Pontypridd, on June 17th, Judge Williams gave his decision in an action in which Mr. Sparnon, a tradesman of Llantrisant, claimed £50 damages from the Llantrisant and Llantwit Vardre Rural District Council for alleged injuries caused by the defendants' employés to his health and business, the action being brought in reference to a drain which was laid down by the defendants under plaintiff's premises, when chloride of lime was used for disinfection. His Honour said that the disinfectant was used in greater quantities than was required, Mr. Sparnon being obliged to leave his house, and the chloride of lime aggravated a disease from which he was suffering to such an extent that, according to the medical evidence, he was confined to his bed for two months and had been ailing ever since; and he further observed that he found that the defendants had knowledge of the plaintiff's state of health, and under the circumstances they should have consulted their medical officer of health as to what disinfectant was proper and in what quantities it should be used, but they persisted in the use of chloride of lime after they had received formal notice of its effects. His Honour assessed the damages at £25 4*s.*, apportioned as follows: Personal injuries to plaintiff, £10 10*s.*; doctor's bill, apportioned, £10 10*s.*; one month's wages to the plaintiff's son, £4 4*s.*, with costs.

ISOLATION DIFFICULTIES AT CHISWICK.

THE difficulty which sanitary authorities have to face in procuring sites for infectious hospitals is once more exemplified by the recent breakdown at Chiswick. The Duke of Devonshire at first promised to assist the urban council in the matter, although this offer of help was accompanied by conditions which were felt to be serious. Before, however, any attempt could be made to abate the stringency of these conditions he announced that any grant of land by him for the purpose in question would meet with much opposition from the residents and hence he could not voluntarily offer facilities in connexion with the intended scheme. Whether the Duke of Devonshire means that he will oppose any attempt to take his land or whether he wishes simply to imply that compulsory purchase under a provisional order must be resorted to as a matter of form so as to relieve him from responsibility is immaterial, for the expense of the latter method of procedure is in itself a barrier in the way. No one can complain of a landowner who feels that to sell land for an infectious hospital will not only depreciate the value of his estate but also cause great discontent on the part of those who have already erected houses on that estate; nevertheless the time must come when public health authorities will have to be afforded greater facilities in this matter. In the case of Chiswick no question of small-pox arose, so far as we can learn, and there is abundant evidence to show that, apart from small-pox, an infectious hospital which is properly administered does not involve any danger to the surrounding community; and, happily, we have in the case of small-pox an infinitely more potent means of prevention than small-pox hospitals have thus far shown themselves to be. It is, indeed, only with the steady advance of vaccination that the Gloucester epidemic has been dealt with to the extent already achieved, and the town council of that city admitted long ago that the attempt to get rid of the epidemic by means of isolation and disinfection had failed. It is essentially in regard to scarlet fever that the need of hospital accommodation for Chiswick has been shown to be wanting, and in England and Wales, whilst small-pox has of recent years only slain its tens or its hundreds, scarlet fever has numbered its victims annually by thousands.

THE CASE OF MR. R. B. ANDERSON.

WE learn with much pleasure that the Worshipful Society of Apothecaries has decided to receive a deputation of the Civil Rights Defence Committee, to be introduced by Lord Stamford, to place fully before the Master, Wardens, and Court of Assistants the facts of Mr. Anderson's case that amount to an infringement of the charter of the Hall and an invitation to unite in the work of the committee in defence of the rights of the Society. Such an infringement seems so incredible that we cannot wonder that the Society of Apothecaries has taken some time to grasp the reality. The reception of the deputation does not in itself, of course, pledge the Society to adopt any line, but we cannot doubt that when the Society realises the nature and extent of the violations of its charter it will decide to act constitutionally but vigorously in defence of its own rights and those of a grievously injured Licentiate and especially claim, as it is entitled to do, the coöperation of the other guilds and the Corporation of the City of London in the necessary measures to protect the rights of a city charter.

THE SECRETION OF THE SKUNK (MEPHITIS MEPHITICA).

AN interesting article on this subject appears in the second number of a new American journal, the *Journal of Experimental Medicine*, written by Dr. Thomas B. Aldrich. The investigation is all the more deserving of praise since it is one of the most repulsive that can be undertaken. The offensive character of the secretion has become a byword. It is discharged from two oval pouches about an inch long, situated on the sides of the rectum close to the anus, by two ducts which terminate at the top of little papillæ just inside the sphincter ani. The wall of the pouches consists of a fibrous investment, a muscular coat of striped fibres, a submucous coat, and a mucous membrane; the masses of glands are situated in the submucous layer. The glands are tubular and lined by cubical epithelium. They present strong analogies to the sudoriparous glands. The disgusting odour of the secretion is so intense that one of Dr. Aldrich's predecessors having collected a little for examination the whole College of the Johns Hopkins University rose in revolt, and he had to get rid of his material. Dr. Aldrich was more fortunate and was permitted to pursue his examination without interruption. The fluid secretion is clear, limpid, and golden-yellow or amber-coloured, having a characteristic penetrating and most powerful odour; its specific gravity is 0·939; it remains fluid at −13° C.; and its reaction is neutral. The vapour is highly inflammable and burns with a luminous flame, giving off sulphur dioxide. It is readily soluble in alcohol, ether, and chloroform. A 50 per cent. solution of sodium or potassium hydroxide dissolves the fluid partially, the odour almost disappearing, but returning on the

addition of sulphuric acid. Its reactions justify the assumption that one or more mercaptans or thio-alcohols are present. It contains about 30 per cent. of sulphur. Experiment showed that when so far diluted that the air inhaled only contained $\frac{1}{10000000}$ in each cubic centimetre it was still perceptible to the smell. It is a powerful anæsthetic. When inhaled without the admixture of a large amount of air the victim loses consciousness, the temperature falls, the pulse slackens, and if the inhalation were prolonged fatal results would probably ensue. Introduced into the conjunctival sac it produces intense pain and sets up acute inflammation. The fumes of this liquid are overpoweringly pungent and extremely irritating to the glottis.

MEDICAL CERTIFICATES AND BOARD SCHOOLS.

IN another column will be found a letter referring to the case of the West Ham School Board and Mr. R. B. Hunt upon which we commented in our issue of May 30th. We are glad to be able to congratulate the chairman of the West Ham School Board upon his eminently sensible remarks, only we would point out to him that not only have school boards no right to demand the nature of a child's illness, but also no right to demand a certificate at all. We have been fighting this and kindred matters with the London School Board for over a year, and we trust that body will issue a pronouncement to enthusiastic divisional superintendents on the subject, and will ponder well the remarks of the chairman at West Ham.

THE CHEMISTRY OF WHISKY.

THE commonly prevailing ideas as to the chemistry of whisky are evidently confused. The public notion has always been that crude or freshly distilled whisky was injurious and that it required the mellowing influence of age to make it fit for consumption. In other words, new whisky was held to be deleterious because it contained fusel oil, and that the reason why old whisky was more wholesome was because this fusel oil changed in course of time to the so-called œnanthic ether. To put it chemically, the amyl alcohol (fusel oil) oxidises slowly into amyl ether, which is not only thought to be innocuous but to improve the flavour. The Deputy Principal of the Inland Revenue Branch of the Government Laboratory would remove these notions at one sweep. Thus, in reply to a question before the Liquor Commission on Tuesday last he stated—and it was a repeated statement—that it was a mistake to suppose that new spirits contained more fusel oil and were more unwholesome than old. With the former part of his statement we will not now deal, but to the latter we distinctly demur. It cannot be supposed that whisky merchants take the trouble to store their whisky for years unless they know that it is thereby improved from the dietetic point of view. Again, it is well known that so convinced are the authorities of the Canadian Government of the unwholesomeness of new whisky that we believe they have a regulation in force prohibiting the sale of whisky that has not been stored for a certain number of years. Fusel oil is admittedly injurious—indeed, poisonous—according, at least, to the experiments of several observers. In one case, for example, 1 part of amyl alcohol in 500 parts of water caused anæsthesia in frogs in twenty minutes, the heart's action becoming slower, the skin dark, death occurring in about two hours, and the cardiac pulsations gradually ceasing. The common effect of fusel oil is to produce intense headache, and it must be borne in mind that in the case of whisky the action of alcohol must be added to that of the fusel oil. The amount of fusel oil, we believe, in whisky averages about 0·2 per cent. These observations hardly bear out the statements made before the Commission. Incidentally we may add that it is exceedingly satisfactory to find that the consensus of opinion of the witnesses before this Commission appears to be that there is an undoubted decrease in drunkenness in the metropolis, but this decrease, it is noteworthy, is less among women than among men.

SHORTHAND IN MEDICINE.

THE Oxford Shorthand Society has memorialised the General Medical Council, through the Education Committee, to grant the prayer of the Society of Medical Phonographers and include shorthand in the syllabus of the preliminary examinations for medical students, but to decline to in any way favour any one system of shorthand to the detriment of others, such a course being, in the society's opinion, equally opposed to shorthand progress and the public interest, and calculated, moreover, to defeat the primary object of the Society of Medical Phonographers. The memorial is influentially backed by a large number of headmasters and others.

THE LONDON WATER-SUPPLY.

THE hybrid committee appointed to consider the London water companies Bills dealt on Tuesday last with some of the most important measures concerned—viz., the Staines Reservoir, the Grand Junction, and the New River Water Companies. The decision was announced by Sir J. Pease, who stated that the Bills would be passed after the elimination and alteration of certain clauses. The committee were not prepared to grant power for additional lands irrespectively of those necessary for the construction, supply, and discharge of reservoirs. Exception was taken, and we think very rightly, to the deficiency in storage in the case of the Grand Junction Company, and it was felt that this company should be required to give an undertaking that a specified proportion of water run into their filter beds should be for storage purposes. A limit of 80,000,000 gallons per diem was placed on removal from the Thames, and the power to forward water down the conduit must likewise be limited to 30,000,000 gallons per diem on the average of any one month. Mr. Pope, in opening the case for the New River Company, stated that six new wells and three new reservoirs would be constructed, raising the present supply of 46,500,000 gallons to 60,000,000 gallons, or nearly 10,000,000 gallons in excess of the quantity requisite in ten years' time. The committee adjourned till Friday.

THE MIDDLESEX HOSPITAL.

THE inauguration of the new convalescent home at Clacton-on-Sea, which has been founded in connexion with the Middlesex Hospital, is to be celebrated by a *fête* in the hospital garden and medical school on Wednesday, July 1st. The afternoon *fête*, from 5 to 7 P.M., will be graced by the presence of their Royal Highnesses the Duke and Duchess of York, and in the evening the gardens will be illuminated. The members of the *fête* committee, of whom the Marquis of Breadalbane is chairman, have drawn up an excellent programme for the entertainment of the visitors. The musical arrangements are under the direction of Mr. Wilhelm Ganz, and several well-known artistes have offered their services. It is hoped that the result of the *fête* will go far to meet the heavy outlay occasioned by the building of the convalescent home, the maintenance of which will be chiefly met by the munificent bequest of the late Mr. Henry Spicer to the Samaritan Fund. We hope to publish next week a

full description of the new building, of which the architect is Mr. Keith D. Young. It is interesting to note that last year the Middlesex Hospital completed the 150th year of its existence which commenced originally in Windmill-street, the present building being erected a few years later in "Marybone Fields," where the foundation stone was laid by the Earl of Northumberland, first president of the hospital. The hospital, therefore, came into existence about twenty years after Guy's foundation, and is coeval with the London Hospital in the east and St. George's Hospital in the west.

TECHNICAL EDUCATION AND HEALTH.

"TECHNICAL Education: a National Necessity,"[1] a paper read before the Cork Young Men's Society last year by Professor Corby, M.D., has now been printed in pamphlet form, and we heartily commend its perusal, for the author possesses a thorough grasp of his subject. England is far behind continental countries in the matter of technical education, and we hope the lecture will receive the attention which it deserves by those who have at heart not only the commercial prosperity of the country, but the welfare of the rising generation. One suggestion which Professor Corby throws out is worthy of consideration apart from its technical aspect, for it would have an important bearing upon health. "Plots of ground," says the author, "should be attached to every national school in the country on which the teacher could give his students practical instruction in agriculture." This of course applies to Ireland, but we think that with certain modifications the idea would be beneficial to other parts of the British Isles.

THE DANGERS OF STREET MUSIC.

WE have frequently animadverted upon the undoubted nuisance occasioned by the itinerant grinding of street organs. This time we have a very serious complaint to make against their use when coupled with the assistance of a dancing troupe. This mode of employing piano-organs to attract public notice is largely on the increase. We protest against this modified form of music-hall performance in our public highways because, as we ourselves have witnessed, it may give rise to very great danger to the passers-by. What might have been a very serious occurrence of this kind happened in Garrick-street this week and we quote it as a case in point. A troupe of four, including a girl gaudily and gaily dressed in brilliant colours, were dancing somewhat wildly to the jaunty airs of a piano-organ. A large crowd lined both sides of this busy street to witness the performance. At length it was the girl's turn to dance alone, which she did effectively enough and evidently to the spectators' delight. After her gyrations had proceeded for a time a hansom cab came along, the horse of which immediately shied on seeing the gestures of the brilliantly coloured dancer. Careering over to the opposite side, which was the wrong side that should be taken in the direction the vehicle was going, the wheels came into contact and interlocked with the wheels of another cab waiting for a fare, with the result that the former, after dragging the latter some distance along, was eventually completely overturned. The crowd was panic-stricken and ran in all directions. The occupant of the cab luckily escaped with slight contusions and some cuts from broken glass, for which he was treated at Charing-cross Hospital. We should like to know whether the police are blind to the dangers of such a show, and if not, why they allow it to go on. We trust that the authorities at Scotland Yard will not fail to take notice of this matter and exercise an increased vigilance in this direction. The possibilities of risk to life and limb through an occurrence of the kind we have described are, it is evident, extremely great, and afford one more argument to spur the Government to the passing of Mr. Jacoby's Bill.

[1] Published by J. Mahony, Cook-street, Cork, price 3d.

A JOINT ISOLATION HOSPITAL AT EAST GRINSTEAD.

AFTER having acquired a site and waited long months in default of any agreement as to terms, a settlement between the East Grinstead (Sussex) urban and rural district councils seems likely to be reached with respect to a much-needed isolation hospital. Each council has decided and made initial arrangements to erect a hospital actually on the same site for its own district respectively, but this anomaly was too startling and it is hoped will be obviated. At a meeting of the urban council it has been decided to appoint a joint sub-committee to carry out arrangements under the following suggestions—viz.: (1) that a joint hospital board be formed on the terms usual in such cases; or (2) that the urban council build two wards of four beds each, and also the larger administrative block, laundry, and mortuary, sufficient to serve both hospitals, in accordance with the sanction of the Local Government Board; that the rural council build two exactly similar wards on their land; and that the urban council manage the hospitals, the rural council to pay half the annual expenses of maintenance and management in addition to the sum of £50 per year as rent for the share of the use of the buildings erected by the urban council. Finally it is suggested that each authority should pay the expenses of their own patients while in hospital. The matter has been so long delayed that it is to be hoped a settlement may soon be arrived at on equitable terms, which should not be hard to arrange.

HOSPITALS AND THEIR MANAGEMENT.

A CORRESPONDENT who signs himself "A Suffering Working Man" complains, through the medium of an evening contemporary, that he has been unable to obtain admission into four London hospitals, three of which refused him on the grounds that there were no vacant beds and a fourth because the case was not a suitable one. On the strength of this he wants to know what becomes of the enormous sums which are raised for the benefit of these institutions, and he further hears, "on good authority, that the staff of these institutions live in ease and luxury on the money which is given by the generous public, whilst the welfare of the patients is a secondary consideration." A more silly letter than this can scarcely be imagined, showing, as it does, a deplorable ignorance of the most elementary facts of hospital management. Anyone who takes the trouble may easily find out that the reply that there are no vacant beds is only too true, not because the staff are rolling in luxury, but because every possible nook and corner is full of patients, and if in some hospitals valuable space is lying idle it is only because sufficient funds are not available to use it. Then, again, this impetuous correspondent seems to forget that hospitals are managed by a board of gentlemen selected from the public. These boards control and check all salaries and hospital accounts and frame the rules of the hospital, and, as far as we know—and we have it also on "very good authority"—while managing fairly, they are the last people to encourage their staff to live in ease and luxury. It is a pity that any paper should insert such absurd views as these; it seems to us better to risk hurting the feelings of "a constant reader" rather than let such nonsense appear in print. It is so easy to generalise an accusation. Let this suffering correspondent name the institutions and the individuals who are thus using public

money to their own advantage and only looking upon the patients as secondary considerations. If he can prove the truth of this allegation against any institution he will be doing a beneficial act to the public and medical profession alike; if he cannot do this he will show less ignorance of the subject by keeping silence.

THE DIRECT REPRESENTATION OF THE PROFESSION AND THE LANCASHIRE AND CHESHIRE BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

THE Lancashire and Cheshire Branch of the British Medical Association, as will be seen in our correspondence columns, nominated at their meeting on Wednesday at Southport the following gentlemen: Dr. Glover, Dr. Sam Woodcock, J.P., of Manchester, President-elect of the Lancashire and Cheshire Branch of the British Medical Association, member of the Council and of the Parliamentary Bills Committee of the British Medical Association, and President (re-elected) of the Manchester Medico-Ethical Association; and Dr. Lovell Drage, of Hatfield and St. Albans. Dr. Drage was a distinguished student at Oxford and house surgeon and midwifery assistant at St. Bartholomew's Hospital, and is the writer of several letters on medical politics.

"UNEVENTFUL MIDWIFERY."

IT is always a pleasant duty to us as medical journalists to have to review the work of a general practitioner, hard in its character and extending over a good series of years, especially when the results are satisfactory and the practitioner himself survives in comparative youth and strength. Last week we published the report of the proceedings of the Islington Medical Society, which included an account of his midwifery work by Mr. Jago, under the happy heading "Uneventful Midwifery." We wonder what those who consider medical practice an easy matter would think of the facts so succinctly told by Mr. Jago and of the attendance on over 4700 cases in twenty-three years, not as a sole occupation, but as one of the multifarious duties of a general practice in a populous and not over rich neighbourhood. The number gives an average of about 204 cases a year, and in most of the years doubtless a much larger number. The record and the results are such as any practitioner may be congratulated on. Take the most important point of all—that of mortality. There is nothing more pathetic than the death of women owing to the function of childbirth, and no medical man is worthy of his profession who does not take every pains and make every sacrifice to avert such a result of parturition. Mr. Jago has obviously taken such pains. We have all heard, indeed, of obstetric practitioners who never had any mortality. They never lost a case. But we have rarely known such. We prefer such possible records as Mr. Jago's—excluding two cases of advanced phthisis—a mortality of 7 in 4700 cases, or 1 death in about 671: two cases of death from hæmorrhage, 1 from embolism, 1 from privation, and 3 from septic infection. There is possibly an element of luck in obstetric as in other practice. But it is the business of the accoucheur to control the process of labour and to counteract the element of ill-luck, and this he must chiefly do by early detection of complications and untoward accidents and their early correction, and by the exclusion of all uncleanliness and infection. The element of luck or chance is illustrated by one very remarkable fact in the series of cases now under notice. The complication of shoulder presentation only occurred once to Mr. Jago, and in that case he was sent for by a midwife, who was trying to deliver by pulling upon the arm. It is surely very rare for a practitioner of such large experience to have seen so little of cross presentations. An almost equally strong illustration of the element of luck in midwifery is to be found in the fact that Mr. Jago in his 4700 cases only remembered one case of prolapsed funis. Churchill collected 98,512 cases of labour in which this accident occurred 401 times, or once in 245·5 cases. Mr. Bland, quoted by Dr. Lusk, met with it once in 1897 cases. Allowing for the fact that Mr. Jago has not kept elaborate statistics, which would be almost impossible in such circumstances, and that he may have encountered two or three more of these abnormalities than he can remember, it is still remarkable that he has encountered them so seldom as he has done. We may say the same of his cases of placenta prævia and of the need to perforate, which occurred only once.

DR. KLEIN, F.R.S. will continue on Wednesdays, July 1st and 8th, at 4 P.M., at King's College, Strand, at the instance of the British Institute of Public Health, the Harben Lectures, having as their subject "Recent Researches in the Identification of the Typhoid Bacillus and the Cholera Vibrio." All who may be interested are invited to attend. The first lecture on the subject was given on Wednesday last, but notice of its impending delivery was not sent to us.

THE annual dinner of the Cambridge Medical Graduates' Club will be held at Limmer's Hotel, Conduit-street, W., on July 2nd, the first day of the Inter-University cricket match, at 8 P.M. Dr. W. H. Dickinson, the senior Vice-President, will be in the chair. The annual general meeting for election of officers and other business will be held at 7.30 P.M. Each member may bring two guests; tickets 10*s.* 6*d.*, exclusive of wine.

THE DUCHESS OF CONNAUGHT, who was accompanied by the Duke of Connaught, opened at Queen's Hall, Langham-place, on Tuesday afternoon, a rose *fête* and bazaar in aid of the North-Eastern Hospital for Children, Hackney-road, Shoreditch.

THE Colonial Office has learned by telegram from the Governor of Hong-Kong that there were twenty-one fresh cases of bubonic plague in the week ending June 23rd, and twenty deaths from the plague during the same period.

THE PRINCESS OF WALES, accompanied by the Princesses Victoria and Maud, paid a visit to St. Mary's Hospital on Tuesday last. They were conducted through the wards by Sir William Broadbent.

DR. D. J. GALLOWA has been granted the royal licence to wear the insignia of the Order of the Crown of Johore of the Second Class conferred upon him by the Sultan of Johore.

THE PRINCE OF WALES has signalled his Derby victory by forwarding a donation of fifty guineas to the honorary secretary of the Epsom and Ewell Cottage Hospital.

THE DUCHESS OF YORK will open a "Princess May's Ward for Children" at the Royal Hospital, Richmond, on Wednesday, July 8th.

WE congratulate Dr. Longstaff, L.C.C., upon being alive and sympathise with him on the death of his relative.

THOMAS WAKLEY,

THE FOUNDER OF "THE LANCET."

A BIOGRAPHY.[1]

CHAPTER XXV.

The First Ten Years of THE LANCET: *A Recapitulation.—A few Details of Private Life.—The Kindness of Mr. Goodchild.—The Move to Bedford-square.—Wakley resolves to Contest the Borough of Finsbury.*

IT may be remembered that, for the present, consideration of the doings of THE LANCET was to be restricted to the events of the first ten years of its existence.[2] During these ten years the paper passed from obscurity to notoriety and thence to wide-spread recognition as the organ of the medical profession. With the series of drawn skirmishes between the College of Surgeons and Wakley which was enumerated in the preceding chapter this first decade comes to a rather abrupt conclusion; but before passing to the next phase in Wakley's career—that of Parliamentary life—it will not be amiss to recapitulate briefly the actual outcome of his stormy ten years in occupation of the editorial chair.

THE LANCET was started in the interests of the profession at large inclusive of the students, and was designed to show that the great hospitals of the metropolis were managed to the advantage of a few rather than of the community, and that medical men as a body were wronged by their leaders. The establishment by the action at law with Abernethy of the right of THE LANCET to publish the lectures delivered to hospital classes was much more than the solution of an undecided question in copyright. The privileges of copyright would have prevented, and actually did prevent, Wakley from printing the lectures. But when he proved the lectures to have been delivered in a public capacity he gained his point, and in doing so damaged the unearned prestige of many eminent teachers and got his journalistic foot for the first time into those fastnesses of privacy—the metropolitan hospitals.

The articles against malpraxis among hospital surgeons immediately followed and reached their climax in the sensational case of Bransby Cooper *v.* Wakley. They did good and harm. They roused a wholesome distrust in the minds of the profession of the system under which such mishaps were possible. They sounded a revolt against a nepotism that nowadays seems too monstrous to have existed, but which appeared seventy years ago to be natural and void of reproach. They stirred up in the minds of the profession at large a determination to be better treated and only to be ruled by those who were worthy to rule them. All this was effected by Wakley, and almost immediately a purer and better state of things was brought about within our hospital walls. The harm that these articles did was much less than the good, but must not be overlooked. The public dissemination in THE LANCET of such bitter criticism on lecturers, surgeons, and administrators in the well-known hospitals of London brought the profession of medicine into public and unequivocal disrepute. THE LANCET speedily became a purely medical journal, but others besides medical men read it, and learned with some shattering of their idols that the great Abernethy desired not to give his students fair measure in return for fees, that the great Cooper considered the indispensable qualifications for an appointment at Guy's Hospital were relationship or apprenticeship to himself, and, finally, that a medical staff selected in accordance with these principles, not only at Guy's Hospital, but at all the metropolitan hospitals, more than occasionally failed to attain to the high standard of skill and knowledge that was to be expected of them and with which they were generally credited. A second disadvantage to the profession that followed on Wakley's revelation of hospital mismanagement was the stirring up of bad blood. Some men were for Wakley and some were against, but his excessively plain speaking and downright methods of conducting a dispute made it imperative that those who were on his side should quarrel outright with those who were not.

From reviewing and criticising the administration of the hospitals Wakley passed natually to the consideration of the corporation which granted the diploma most sought after by the students. This, the Royal College of Surgeons of England, was officered by the very hospital surgeons whose scientific methods left in Wakley's opinion so much to seek. The Council of the College were hospital surgeons wholly or in large majority. They were chosen for life and nominated their own successors. They selected examiners from among themselves and took no certificates save from hospital surgeons. Here THE LANCET did solid good even in the first ten years of its existence, but this phase of Wakley's work suffers a little from being told piece-meal in accordance with a time limit. The first ten years of THE LANCET saw the end of its Editor's principal legal quarrels. They witnessed his distinct victory over the narrower and more jealous of those responsible for hospital management, and during their passage he collected round him a staff of ardent and able writers capable of maintaining his journal in the position to which he had brought it, capable of carrying out his schemes for the breaking down of monopolies and furthering the cause of the profession at large. But his determination to bring about reform in the College of Surgeons, although in no wit abated, and although not even at this early stage of the struggle fruitless of result, had not at the end of the first ten years reached any definite stage of success. Wakley had roused a wide-spread feeling among the Members against their Council; he had exposed the unsoundness of the constitution of the College; he had criticised certain of the by laws in such a way as to ensure their repeal; he had summoned the first public meetings ever held by the Members, and had dominated those meetings; he had placed the College on its defence, and had elicited from the Council a poor refutation of the charges brought against them; he had organised a petition to Parliament for State assistance in his schemes for reform; and he had come into personal conflict with the Council in an attempt to assert on behalf of the Members a right to meet in the theatre of their College to discuss matters of professional interest. All these things he had accomplished, but at the end of ten years the position of the Members was not appreciably improved. The reform party had been chilled by their slow advance and by the loss of the help of Mr. William Lawrence; the petition to Parliament had ended in nothing, and the concessions made by the Council to the Members amounted to but little more. An extension of the time from the ten years which are under consideration to twenty years would show that the seed sown was to result in a fair harvest; but to deal more diffusely at this period with Wakley's career as a journalist would be to trespass upon space which must be allocated to other phases of his life. The discontinuance of the story of his relations with the College of Surgeons seems abrupt, but this cannot be avoided.

Wakley's public career has bulked so largely that almost nothing has been said of his private life. Nor is there very much to say. The rise of THE LANCET from a

[1] Chapters I., II., III., IV., V., VI., VII., VIII., IX., X., XI., XII., XIII., XIV., XV., XVI., XVII., XVIII., XIX., XX., XXI., XXII., XXIII., and XXIV. were published in THE LANCET, Jan. 4th, 11th, 18th, and 25th, Feb. 1st, 8th, 15th, 22nd, and 29th, March 7th, 14th, 21st, and 28th, April 4th, 11th, 18th, and 25th, May 2nd, 16th, 23rd, 30th, June 6th, 13th, and 20th respectively.

[2] See Chapter IX. of this Biography.

young man's journalistic venture to an assured and serious success was, it need hardly be said, accompanied by a commensurate rise in the private fortunes of the Editor. These when they were last the subject of mention[3] were, it may be remembered, at a low ebb. The disastrous fire had consumed his goods, which were not insured to their full worth, and the Hope Fire Assurance Company, by resisting his claim for compensation, had kept him out of his money until his practice was ruined. The fire cost him £1600 and a practice of £700 per annum, for which a large sum in ready money had been paid. He received in compensation all that he could legally claim—viz., £1200, and was unable to make up his mind how to use this sum to the best advantage. His father-in-law looked askance upon him, not desiring to support his daughter's husband, yet thinking that the possibility of his having to do so was far from remote. The ready-money practice that he purchased in Norfolk-street, Strand, did not give him congenial occupation, and, much as his wife loved her husband, she did not conceal from him that she had a cordial dislike of his profession. She was also aware that her wealthy parents desired for her a fitter environment than was afforded by Norfolk-street. She had now two children, Thomas and Elizabeth, who were respectively six and five years old, and for their sakes as much as for her own she wished to reside in a pleasanter and more suitable neighbourhood.

This was the state of their domestic affairs when THE LANCET was first published, but the paper proved almost immediately a pecuniary success. The circulation was shown in one of the earlier libel actions to be 3000, and this was considerably increased by the Editor's attitude towards the College of Surgeons.

From a journalistic point of view his resolute stand against corruption in that body was his greatest coup, as it was the most important achievement of his life. The other successes of THE LANCET were smaller and more personal. However earnestly Wakley might plead that his actions and counter-actions at law had all been undertaken in defence of the broad principles of reform, a certain proportion of his readers would be unable to see how their interests were advanced by his pugnacious tactics. They might hope that he would win in the magnanimous way that outsiders generally desire victory to go to a gallant fighter against odds, but it was more or less as outsiders that they had watched the contests. Now the attack on the College of Surgeons was so clearly made in the interests of the profession at large that the feeling of being merely interested as spectators disappeared from the mind of his readers and was replaced by a very definite and properly selfish partizanship. In his crusade against the College Wakley was obviously fighting the battle of all the medical men in the kingdom save a few privileged persons, and his list of subscribers at once increased rapidly, while his own position rose from that of a journalist who catered capably to the wants of his public, and now and again furnished them with a thoroughly enjoyable sensation, to that of a leader of a liberal movement attended from the first with success and promising greater things in the future. Upon the more general recognition of Wakley as a single-minded reformer followed a vast improvement in the position of his paper. It gained in power and importance, its opinion had to be reckoned with, while its intolerance and scurrility—the occasional presence of which cannot be denied—were seen not to be its essentialities.

One of the first persons to recognise the great position that Wakley was securing for himself and his paper was Mr. Goodchild, his father-in-law. The very business qualities in that gentleman which had led him to bitterly resent the failure that had attended Wakley's fortunes consequent on the Argyll-street outrages made him prompt to recognise the quick passage of his son-in-law from unmerited discredit to a position of influence and responsibility that was rapidly passing to one of power. The instinct of the successful commercial man warned him that in THE LANCET Wakley had a great property, and that the shrewdness, humour, and force that were displayed in the editing must secure him a prominent public career. He was, moreover, casting about for a fitting opportunity to come to the succour of his daughter, and the rising position of THE LANCET, together with the storminess of its career, afforded him an excellent one. It would be generous to help, and it would not be foolish, so he approached his son-in-law and offered to assist him in his literary venture. This timely aid completely turned the scale of fortune in Wakley's favour. As soon as circumstances warranted his doing so he gave up the house in Norfolk-street and took a larger one in the pleasanter neighbourhood of Thistle-grove, which had the attraction for himself, his wife, and children of possessing a large garden. Thistle-grove was then almost a country lane, but now it is a street called Drayton-gardens, in the heart of that thickly populated part of Brompton and Chelsea that delights to disguise itself under the name of South Kensington, though it still preserves many of the features of suburban villadom. Here his two younger children — Henry and James — were born, and here he stayed until 1828, when he moved into No. 35, Bedford-square, the house which is associated with all his public life as Member of Parliament for Finsbury and coroner for Middlesex.

The neighbourhood of his new address was chosen for a very definite purpose, and one which was approved of by Mr. Goodchild in a practical manner—which means to say that he helped Wakley to find the necessary money to make so important an alteration in his domestic affairs. Wakley's intention now was to offer himself as political candidate for the borough of Finsbury, and Bedford-square was fortunately situated for the purpose, being near the office of THE LANCET, situated at this time in Essex-street, Strand, and also on the edge of the enormous Parliamentary district which he aspired to represent. Immediately upon his establishment in his house he set about using it in accordance with his designs. An open-handed, cheery, and humorous man he delighted in good company, and it must not be supposed that all the profuse hospitality which at once became the rule in the domestic management of 35, Bedford-square was the outcome of a design upon the minds of his possible electors. But while he revelled in the entertainment of his friends he was assiduous in the reception of his political allies, medical and lay. At his fortnightly gatherings for whist or chess he gathered round him a large number of staunch friends who were attracted by his eloquence, his audacious defence of popular rights, his determination, self-confidence, and kindliness of manner. And most of his guests believed in him and prophesied for him a speedy success in the political world, thereby confirming him in his intention and endorsing the opinion of his once angry father-in-law.

(To be continued.)

[3] Chapter VII., Feb. 15th, 1896.

LITERARY INTELLIGENCE.—Amongst Mr. H. K. Lewis's announcements are new work by Dr. E. W. Goodall and Dr. J. W. Washbourn, "A Manual of Infectious Diseases," and a fourth edition of Professor Crookshank's "Bacteriology," which is virtually a new work, having been entirely re-written, as its title, "A Text-book of Bacteriology, including the Etiology and Prevention of Infective Diseases, and an Account of Yeasts and Moulds, Hæmatozoa, and Psorosperms" shows. Also "Notes on the More Common Diseases of the Eye," by R. W. Doyne, F.R.C.S.Eng., and "Disease and Defective Sanitary Arrangements," by W. H. Corfield, M.D. Oxon.

METROPOLITAN HOSPITAL SUNDAY FUND.

WE continue below our record of some of the principal amounts received at the Mansion House, the lists of which have been received at THE LANCET Office, up to the time of our going to press on Thursday, when the total sum received amounted to nearly £31,500. At the corresponding period last year the total was £31,000:—

	£	s.	d.
Trinity Presbyterian Church, Notting-hill	44	3	1
St. Gabriel, Warwick-square	57	19	9
St. Philip's, Sydenham	31	17	6
St. Paul's, Canonbury	45	0	7
St. Mary's, Shortlands	48	1	0
St. Saviour's, Paddington	99	7	5
Marylebone Presbyterian Church	65	17	2
St. Augustine's, Queens-gate	83	19	0
Gray's Inn Chapel	53	14	3
Wanstead Churches	44	2	1
Bromley, Kent, Parish Church	84	4	2
Hammersmith Parish Church	30	1	0
Hampstead Parish Church	74	0	6
St. Pancras Parish Church	55	6	5
Beckenham Parish Church	69	18	9
Chipping Barnet Parish Church	39	6	4
All Saints', Hatcham Park	56	9	0
Mr. Julian, senior	21	0	0
Box outside Mansion House	27	18	3
St. Mary's, Bottons (with additions)	90	0	0
St. Matthew's, Denmark-hill	91	11	4
St. Andrew's, Stoke Newington	85	11	4
All Saints', Clapham-park	70	0	0
St. James's, Hatcham	80	0	0
St. Mary Magdalene, Peckham	36	5	3
St. David's, West Holloway	20	10	5
Christ Church, Southgate	41	5	6
Church of the Annunciation, Chislehurst	88	10	4
St. Mary's, Spring Grove	28	9	2
Nutley-lane Church, Reigate	28	0	0
St. Paul's, Finchley	46	16	6
Holy Trinity, Kilburn	41	0	2
St. Luke's, Battersea	38	18	7
St. Mary's, Aldermanbury	20	19	3
St. Mary's, Stoke Newington	73	10	6
St. Michael's, Betchworth	35	3	1
Mitcham Parish Church	29	10	10
St. John the Evangelist, Westminster	53	11	3
Allen-street Congregational Chapel, Kensington	92	4	1
Holly Park, Crouch Hill, Wesleyan Church	27	5	0
Emmanuel, West Hampstead	27	14	2
St. Mark's Reigate	61	19	11
Dartford Churches	36	10	6
Central-hill Chapel, Upper Norwood	53	12	9
Archway-road Wesleyan Church	27	16	5
Maze-hill, Greenwich, Congregational Chapel	22	18	0
St. Philip's, Regent-street	56	4	11
Camden-road Presbyterian Church	32	0	0
St. Michael's, Paternoster Royal	20	5	3
St. Peter's, Eltham-road	50	14	0
St. Thomas's, Brentwood	22	2	0
St. Luke's, West Holloway	42	10	2
Crouch-hill Presbyterian Church	34	1	5
St. John the Evangelist, Penge	80	10	0
Ewell Parish Church	25	7	0
St. Paul's, Upper Norwood	73	9	10
St. John's, Sidcup	27	2	5
Christ Church, Lancaster-gate (with additions)	1304	14	7
St. Michael's, Chester-square (with additions)	1508	0	0
All Saints', Ennismore-gardens	502	4	0
St. Paul's, Beckenham	167	6	7
Christ Church, Hampstead	227	10	0
St. Stephen's, Hampstead	34	1	4
St. Mary's Parish Church, Putney	31	16	0
St. John's, Putney	62	13	3
St. Mary-le-Bow, Cheapside	20	2	11
St. Matthew's, Bayswater	178	14	8
St. Andrew's, Fulham	74	0	9
St. Bartholomew's and St. Matthew's, Sydenham	166	8	3
St. Paul's, Wimbledon Park	28	16	1
St. John's, Upper Norwood	43	10	2
Christ Church, Chelsea	30	1	0
Gordon-square Catholic Apostolic Church	25	17	10
All Saints', Friern Barnet	40	5	6
Parish of St. Mary Abbott's, Kensington:			
St. Mary Abbott's Church ... 344 1 5			
St. Paul's, Vicarage-gardens ... 100 18 2			
Christ Church, Victoria-road ... 85 17 10	530	17	5
Acton Parish Church and Mission	43	0	3
St. German's Church, Blackheath	53	10	10
St. Mary's, Plaistow, Kent	41	17	6
Immanuel Church, Streatham-common	101	18	2
St. James's, Holloway	69	10	6
St. Mark's, Hamilton-terrace	211	7	10
St. Paul's, Kilburn	36	12	3
St. John's, Hackney, and Mission	43	7	6
All Saints', Notting-hill	28	1	6
St. James's, Marylebone	59	10	4
St. Paul's, Old Charlton	21	14	10
St. Mary's Old Parish Church, Lewisham	61	3	2
St. Paul's, Knightsbridge	308	11	10
St. Mary's, Graham-street	100	11	1
Holy Trinity, Upper Chelsea	285	13	9
St. Saviour's, Upper Chelsea	98	19	10
St. Luke's, Chelsea	46	7	7

	£	s.	d.
St. Mark's, Kennington	36	5	4
St. Stephen's, Wandsworth	66	9	8
Keston Parish Church	29	8	3
South End Chapel, Catford	20	17	0
Chiswick Parish Church	27	1	0
St. George's, Perry-hill	30	11	2
Portman Chapel	110	0	0
St. James's, Piccadilly	122	13	9
St. George's, Tufnell-park	55	19	0
Box outside Mansion House	7	16	6
St. Paul's, Onslow-square	509	12	3
South Kensington Presbyterian Church	47	4	0
New Court Congregational Church, Tollington-park	20	0	0
Christ Church, Woburn-square	26	0	11
Highbury Quadrant Congregational Church	68	3	4
All Saints', Finchley-road	63	8	1
St. James the Less, Westminster	24	2	1
Stamford-hill Congregational Church	101	8	9
St. Stephen's, Ealing	71	15	10
St. Mary's, Leyton	23	17	3
Wesleyan Church, Tooting	23	19	8
From Tooting Beck Golf Club	2	17	7
St. John's Wood Presbyterian Church	100	0	0
St. Peter's, Bayswater	142	3	7
St. John's, Ealing Dean	22	4	0
St. Stephen's, Portland Town	34	10	7
St. Andrew's, Stockwell	21	7	8
Chislehurst Wesleyan Chapel	32	6	2
St. Michael, Highgate	60	18	8
St. Luke's, Redcliffe-square	60	0	0
Highgate Presbyterian Church	37	1	1
Downs Baptist Chapel, Clapton	24	7	6
Willesden Parish Church	21	1	6
St. Paul, Forest-hill	61	8	6
Laleham Parish Church	21	15	6
Eltham Parish Church	23	9	0
F. (a further)	50	0	0
St. Peter's, Dulwich-common	48	5	11
Streatham Parish Church and Mission	73	3	3
Christ Church, Harlesden, Reformed Episcopal	20	17	4
Colebrook-row Presbyterian Church	20	5	2
Trinity Church, Hampstead	109	11	5
St. Anne's, Highgate-rise	26	12	0
Loyal United Friends	50	0	0
Royal Military Chapel, Wellington Barracks	79	6	0
St. Andrew's, Watford	27	0	0
Curzon Chapel, Mayfair	152	10	0
Christ Church, Mayfair	138	5	7
St. George's, Westcombe-park	44	16	11
Lyndhurst-road Congregational Church, Hampstead	64	0	0
St. Luke's, West Norwood	23	5	5
Wesleyan West London Mission, St. James's Hall	40	18	8
Streatham-hill Congregational Church	29	6	8
St. Paul's, Camden-square	63	15	5
Regent-square Presbyterian Church	110	10	6
Holy Trinity, Knightsbridge	56	10	0
St. Peter's, Dartmouth-park-hill	23	17	6
St. Paul's, Great Portland-street	63	10	5
St. Augustine's, Kilburn	54	6	6
St. Dunstan's, East Acton	26	4	6
St. Mary's, Hornsey Rise	38	9	3
St. Mary's, Kilburn	101	2	1
St. Mary's, Balham	£2	1	6
Holy Innocents, Hornsey	33	10	0
Heath-street Baptist Chapel, Hampstead	51	10	0
Aldenham Parish Church	60	8	0
"F. G. D." (a further donation)	50	0	0
St. Philip's, Kensington	111	3	9
St. Paul's, Herne Hill, and Mission	48	5	8
Holy Trinity, Anerley	56	13	0
St. Clement's, Notting-hill	20	6	0
All Saints', Blackheath	63	0	11
St. James's, Paddington	106	13	7
St. Stephen's, Westbourne-park	151	12	4
St. John's, Downshire-hill, N.W.	41	6	3
The Wimbledon Churches:—			
St. Mary's Parish Church ... 47 16 6			
Christ Church ... 76 0 11			
St. John's ... 37 14 5			
St. Mark's ... 10 13 3			
St. Matthew's ... 3 13 11	175	19	0
Dutch Church, Austin Friars	88	16	6
St. Barnabas, Pimlico	33	4	6
Camden Church, Camberwell	68	17	1
Park Church, Highbury Presbyterian	37	15	0
Wanstead Society of Friends	41	9	0
Brixton Unitarian Church	65	8	2
St. Michael's, Blackheath	71	14	0
St. George's, Hanover-square (with additions)	189	11	9
Blackheath Congregational Church (with additions)	126	2	5
Wandsworth Parish Church	84	1	6
Holy Trinity			
St. Paul's, Knightsbridge (with additions)	318	11	10
St. Matthias's, Earl's Court	53	17	7

Other amounts have been received and will be published in our next issue.

THE NEW INFANTRY SWORD EXERCISE.

As we have already announced,[1] during the progress of the Military Tournament some members of the profession in London interested in fencing visited the Agricultural Hall, Islington, at the invitation of Colonel Malcolm Fox, Inspector of Gymnastics, for the purpose of examining into the practice and theory of the new infantry sword exercise (1895). This exercise is that of Il Cavaliere Ferdinando Masiello, the Florentine *maitre d'armes*, and the system was first introduced into this country in 1893. Since that period its followers claim to have carried all before them in the various tournaments held throughout the country.

Colonel Fox explained the main points of this system to those present and illustrated his remarks practically upon Sergeant-Major Palmer, Army Gymnastic Staff. This warrant officer afterwards gave a series of lessons, both simple and advanced, to various non-commissioned officers who had been victorious in this year's tournament. The pupil taking the lesson was, in the majority of cases, stripped, so that the muscular actions involved were easily demonstrated. The main differences between this and other systems were shown to consist in: 1. The grip of the sword, in which the whole hand is used as a claw, thus securing the maximum degree of prehensile force. The thumb is placed along the back of the handle and serves to accurately direct the point. If a penknife be taken in the hand to cut a point to a pencil the fingers and thumb instinctively take the Masiello sword-grip. 2. Circling cuts, which are a series of exercises in "cutting" that tend to develop in the highest degree power over the weapon; and enormous force can be put into these cuts, since the hinge-joint of the elbow is the centre of a circle of which the distance from the elbow to the point of the sword is the radius, for in this system the wrist-joint is never allowed to move except in the action of adduction—at the finish of the delivery of a cut. The wrist, being a universal joint, is capable of any form of error in making a cut; whereas the elbow-joint, having one motion only, cannot possibly deflect the edge from its objective. Consequently a cut made in accordance with Masiello's system cannot be delivered otherwise than with the edge leading. 3. Parries. These are all, except the fourth, made with the arm straight on the completion of the formation of the parry, and with the point on, or almost on, the adversary's body. In many cases the formation of a parry is at the same time a "riposte," and the value of this will be obvious to any practical swordsman. In passing from one parry to another the arm is very slightly bent, thereby gaining a forward motion when meeting the adversary's blade that greatly adds to the power of the defence. Nor can the shock of the adversary's attack be ever met at a right angle as in the old method, consequently the blow loses five-fifths of its force, since it runs along the blade down to the hilt instead of being received on one single point of the blade. 4. The position of "on guard." This is wider than of old, the distance between the heels being about two and a half soles' length, according to the length of a man's thigh, instead of two soles' length as hitherto. This increased distance gives a much firmer base with a greatly increased facility for rapidly advancing towards or retiring from an opponent. 5. The lunge. In this system the body is inclined as far forward as possible when lunging; thus a gain of about twelve inches in actual reach is obtained, and the recovery to the position of "on guard" is rendered much easier than in the old method, where the body was kept upright for obvious anatomical reasons that have already been explained in THE LANCET.[2] 6. The jump. This is an action somewhat difficult to explain but very easy to perform. It is a rapid means of getting to the rear out of reach of an opponent. It is an action peculiar to this system, and consists in pressing strongly off the right foot, carrying it to the rear, and at the same time carrying the left foot an equal distance to the rear, so that when the feet are again on the ground the correct position of "on guard" is assumed.

The above were the chief points touched upon, and then an interesting series of lessons with sword and foil were gone through. In conclusion Colonel Fox drew attention to Masiello's series of corrective exercises with the sword, exercises designed to prevent any tendency to spinal curvature that might be induced by constant lunging. He also drew attention to the fact that a military system of swordsmanship must have for its object the defence of a man's life and his power to disable his adversary. He claimed for Masiello's system that it fulfilled these conditions.

Some staff-sergeants of the gymnastic staff were then shown and were seen to be men of admirable physical development. Sandow's system of "Light Dumb-bell Exercises" was demonstrated, also a few exercises without apparatus.

At the conclusion of the display Sir William MacCormac cordially thanked Colonel Fox for the opportunity he had afforded him and his colleagues of examining into the new system of swordsmanship—a system that appeared to be thoroughly sound, both practically and theoretically.

Among those present were the following members of the medical profession:—Mr. W. H. Bennett, Dr. Champneys, Mr. Clinton Dent, Dr. J. H. Drysdale. Mr. Muirhead Little, Sir William MacCormac, Mr. Howard Marsh, Mr. J. H. Morgan, Mr. W. H. Staveley, Dr. Frederick Taylor, Mr. J. H. Waring, and Dr. Dawson Williams.

[1] THE LANCET, June 13th, 1896.
[2] THE LANCET, Nov. 30th, 1895, March 28th and April 11th, 1896.

CHOLERA IN EGYPT.

"NEVER since 1885—not even during the memorable summer of 1883—has Egypt been afflicted with such a terrible outbreak of cholera as she is now experiencing. It is generally accepted (though denied by the doctors) that the disease is endemic in the country in a more or less inconspicuous way."

Our readers who may not have seen the original will doubtless be surprised to learn that the above sensational statement is taken from the usually well-informed *Pall Mall Gazette*. It is, of course, possible that the present outbreak of cholera in Egypt may increase in severity, and that eventually it may prove more destructive than its precursors, but up to the time of writing nothing has occurred to justify the grave note of alarm sounded by our contemporary. On the contrary, the epidemic has so far shown itself amenable to control and from the latest returns it appears that the number of cases is decreasing both in Cairo and at Alexandria. A certain amount of panic did, and probably does still, exist, for cholera and panic are notoriously inseparable; but if the homeward-bound steamers are filled to overflowing, it must be remembered that this is the season of the year when the usual exodus takes place on account of the summer heats. The inhabitants of Egypt, foreigners as well as natives, have every reason to repose the fullest confidence in the zeal and energy of their sanitary guardians, but unfortunately these officials are beset and hindered in many ways. They are expected to make headway against a deadly foe, but the weapons supplied to them for the combat can only be described as totally inadequate.

Cholera at Cairo and Alexandria is steadily declining, but the disease seems to be slowly extending in the provinces. The number of deaths reported on the 19th instant was 10 at Cairo and 3 at Alexandria. Elsewhere there were 189 fresh cases and 170 deaths. The total number of cases reported in Egypt since last September is 5193, and of deaths 4776; the mortality rate of those attacked has therefore been very high. According to a Central News telegram an outbreak of cholera had occurred in the 5th Battalion of the Egyptian army, stationed at Korosko. There have been 14 cases returned, with 7 deaths, and the occurrence has naturally given rise to some anxiety lest the disease should spread to the troops engaged in the Soudan campaign. It is, of course, quite possible that it may do so, but we do not think that any grave apprehensions need arise in regard to this. The troops are in the desert, which is the best place for them to be in the event of their being attacked, they are encamped on clean and healthy sites, their water-supply is believed to be good, and all hygienic requirements are carefully attended to. We believe the health of the British troops at Alexandria and Cairo and in the Soudan to be quite satisfactory at the present time.

THE GENERAL MEDICAL COUNCIL AND THE CIVIL RIGHTS DEFENCE COMMITTEE.

THE following letter has been addressed by Mr. Timothy Holmes, as chairman of the Select Committee of Medical Defence in the Civil Rights Association, to Sir Richard Quain, as President of the General Medical Council:—

"5, Mitre-court, Temple, London, E.C., June 20th, 1896.

"SIR,—As Chairman of the Select Committee on Medical Defence I am requested by my Committee, in reference to previous correspondence and especially to the letter of your Business Committee dated June 6th, 1896, and to a letter of your solicitor dated Nov. 25th, 1895, to point out the following errors or misconceptions. The letter of the Business Committee dated June 6th, 1896, quotes the solicitor of the Council as saying that Mr. Anderson's case is wholly outside the functions and powers of the Council. Now this is not what the solicitor said. His reply runs thus: 'It is wholly beyond the province of the Council to take part in an endeavour to obtain for an individual his civil rights, and the fact that the individual claiming them is a medical practitioner does not in any way alter the position.' We do not ask the General Medical Council so far to depart from their functions as to endeavour to defend civil rights generally, but we believe it to be a part not only of their functions, but also of their duty, to defend the professional rights which they have themselves confirmed to Mr. Anderson by their registration, which they would be bound to deprive him of if he were guilty of infamous conduct in a professional respect, and of which they, and they alone, on such grounds alone, have by the Medical Acts the power to deprive him.

My committee desires in this relation to point out that for what is asked there cannot in the nature of things be either authority or precedent; since so remarkable a state of facts could not be anticipated or provided for and has not before occcurred. There can, my committee submits, be no obligation, however, on any member of the General Medical Council to continue to issue misleading and illusory certificates of registration holding out on behalf of the Crown promises of rights now by the Crown, acting through the judges, declared to be no rights at all, but to depend on the arbitrary will and pleasure, or even malice, of the judges. It could not be compulsory on any man to hold office under such conditions; but far short of resignation we submit that there is nothing in the Medical Acts to fetter your inclinations; and no conditions either in law or in morality, than can render it improper for you to take corporate action to ascertain that the promises of which you are the channel are not broken to those to whom they are made. This my Committee ventures to submit is not a question of law, but of those natural obligations which are above and beyond expressed law, and of which the law is the more or less imperfect embodiment. The rights to which I here allude are solely those which your Council confirmed to Mr. Anderson.

"My Committee asks of you that a meeting of the executive council be convened and a deputation of this Committee be received by which the case and our views may be fully placed before you, and that this be followed by a special meeting of the Council to consider an interpretation of the law that seriously affects the nature and value of every certificate of registration issued, and gives to every man entering the profession, as well as those who have already been admitted, the right to ask you, 'Have I under this certificate the right to recover reasonable charges for work and services rendered and the right to render or refuse my services? Or can I, for withholding or withdrawing my services be punished by damages, costs, and imprisonment and be arbitrarily and maliciously denied all right to recover reasonable charges for services actually rendered?'

"This is a question in the answer to which we venture to submit that the General Medical Council as a body, and each member of it individually, is so far concerned in honour as that no legal technicality or equivocation can relieve him.

"I have the honour to be, Sir, your obedient servant,

"TIMOTHY HOLMES,

"Chairman of the Select Committee on Medical Defence."

There can be no doubt that Mr. Holmes makes out an excellent case why the Executive Committee of the General Medical Council should receive a deputation from the Civil Rights Defence Committee, and we hope that this letter will receive a favourable answer.

THE HOLIDAY SEASON.

(*Continued from p. 1743.*)

THE tours arranged by Messrs. Thomas Cook and Son and by Messrs. Henry Gaze and Sons, "conducted" and "independent," offer many advantages to the traveller both at home and abroad. The total cost of any particular journey can be accurately estimated, or given a certain sum of money the best possible tour that can be taken for that amount can be readily supplied. In addition to these advantages the tourist has the benefit of interpreters where necessary, and none but the best hotels are recommended; the best routes only are selected and the tours are mapped out in such a way that all the chief points of interest in a given itinerary can be seen in the smallest possible space of time by those whose period of holiday-making is limited. There are many other advantages to which we have not space to refer, but a letter to either of the agents will be promptly attended to and bring forth any information relative to travel the applicant may desire. So "prodigious," as Dominie Sampson would have said, is the amount of printed matter issued by these two firms that we are unable to give even an abridged list of all the tours or combination of tours by either firm, but we may mention a few among the many booklets which can be obtained on application.

THOMAS COOK AND SON.—The Programme of Summer Tours to Various Places of Interest in Great Britain and the Continent at moderate and inclusive charges, combining railway ticket and hotel and other accommodation, contains some capital tours for those whose time is very limited, including Saturday to Monday trips to the seaside and other summer resorts. "Tours in the Emerald Isle" and "Tours in Scotland," both illustrated and containing brief descriptive notes, should prove useful to those who have decided to spend their holidays in either of these portions of the British Isles. Italian Tours, with maps, embrace the chief cities of Italy, with extensions to the Italian lakes, the Island of Sicily, &c., with breaks of journey. Independent Tours in Normandy and Brittany, in Norway, Sweden, and Denmark, Conducted Tours in Norway, Sweden, and Denmark, in Holland and the Dead Cities of the Zuyder Zee, in the Ardennes, in Iceland and the Land of the Midnight Sun, Paris, Switzerland, Normandy and Brittany, Holland, Belgium, the Rhine, and The Black Forest, are the titles of some of the gratuitous pamphlets. Intending visitors to the National and International Exhibitions in Berlin, Geneva, Budapest, Innsbruck, and Kiel should obtain the small books giving the tours arranged in connexion with these places. Those interested in the forthcoming solar eclipse should obtain the special programme of steamer cruises to the Norwegian Fjords, the Mediterranean, West Indies, Canary Islands, Azores, &c. Cook's Excursionist and Home and Foreign Tourist Advertiser is too well known to travellers to need any description from us.

HENRY GAZE AND SONS.—Gaze's Indian Tours, comprising the principal points of interest to tourists in India, Burmah, and Ceylon, should be consulted by those about to visit these parts. Cheap Italian tours are detailed in Gaze's Cheap Italy, and Switzerland, the Rhine, Paris, Brussels, Amsterdam, the Ardennes, &c., are countries and places to which special conducted tours may be made. Of special note are the ten-guinea Swiss tours to Grindelwald and the Bernese Oberland or Davos Platz and the Engadine. A special cruise for the total eclipse of the sun on Aug. 9th, by the ss. *Norse King*, leaving London on July 25th, is announced, and also a special pleasure cruise with the same object by the ss. *Kong Harald*, leaving Newcastle on July 30th. Gaze's Shipping Programme gives lists of sailings by all principal lines of passenger steamers to all parts of the world, pleasure cruises, through overland fares, and advice and rates for emigrants; and the well-known *Tourist Gazette* contains particulars of many cheap and interesting tours, including some cheap week-end excursions.

SHIPPING COMPANIES.

SHAW, SAVILL, AND ALBION COMPANY, 34, Leadenhall-street, E.C.; Glasgow agents: 15, St. Vincent-place, Glasgow.—This Royal Mail Steamship line between London and New Zealand, Tasmania, and Australia issues a handbook of information for passengers with brief notices on the places touched on the outward and homeward journey, which is made in from forty to forty-five days. The book contains all the information the traveller is likely to need. Fares to or from New Zealand range from £68 to £15 15*s*., Australia £72 to £16 16*s*., South Africa from £28 to £8 8*s*., and Teneriffe from £15 to £7. The return fares are as follows:—

Class.	To and from New Zealand or Tasmania.	To and from Australia.	To and from Teneriffe.
	Per adult.	Per adult.	Per adult.
First saloon	£100	£110	£25
Second saloon	65	70	20
Third-class, 2 berth cabin	36	38	16
Third-class, 4 berth cabin	32	34	14
Third-class, open steerage	28	30	12

ROYAL MAIL STEAM PACKET COMPANY, 18, Moorgate-street, E.C. — "Tours in the West Indies," issued by this company, is a tastefully printed and illustrated booklet giving details of the various first-class tours arranged by the company. Full information for passengers by the Brazil and River Plate route is given in a small pamphlet. During June, July, and August very pleasant voyages can be made to Brazil and the River Plate, as during that season the weather is comparatively cool. The cost of return tickets to Buenos Ayres is £52 10*s.* and £60, the voyage taking seven weeks, or to Brazil and back £45 or £52 10*s.*, the time occupied on the voyage being five weeks. The vessels on this route are of about 6000 tons, with all the latest improvements of modern ships. During the winter the company organise special trips to the West Indies at the very moderate charge of £65 for sixty-five days.

THE ORIENT STEAM NAVIGATION COMPANY.—The cruises arranged by this company embrace Norway and the North Cape for the Midnight Sun, Lapland for the solar eclipse in August next, Spitzbergen, Copenhagen, Stockholm, St. Petersburg, Moscow, Kiel, the Baltic Canal, and Heligoland. The last-named cruise provides an opportunity of visiting the fair at Nijni Novgorod. In addition to these short trips may be made by the mail steamers of the Orient line to Gibraltar, Naples, and Egypt. Pamphlets giving full particulars can be obtained on application. A pamphlet entitled "Pleasure Cruises to the Land of the Midnight Sun" is compiled in the manner of that excellent book for ocean travellers, "The Orient Line Guide." The following quotation heads one of the chapters in the pamphlet:—"To know what to observe, when and how to look for it, and to be able to recognise it when seen, is one of the most important qualifications of the traveller, and is that wherein intelligent guidance may be of the greatest service." This is the keynote of both the Orient Line Guide and the pamphlet referred to.

ALBION S.S. CO., LIMITED, 4, Lombard-street, Newcastle-upon-Tyne.—"Yachting Cruises in Norway by the Yachting Steamer *Midnight Sun*" is the title of this company's handbook giving the itinerary of the cruises, together with plan of her cabins, showing the prices of the berths from 12 to 25 guineas. Although the cabins differ in prices, chiefly in accordance with their more or less favourable position in the steamer, all passengers (first-class passengers alone are carried) share alike the other privileges of the steamer.

THE PENINSULAR AND ORIENTAL COMPANY.—For India, China, Japan, Australia, Tasmania, and New Zealand the handbooks issued by this company give all necessary information.

MISCELLANEOUS.

The Tourist Guide to the Continent (price 6*d.*), edited by PERCY LINDLEY, is a well-known guide issued by the Great Eastern Railway Company. The cycling routes in Holland, Belgium, and Germany should prove useful to knights of the wheel. Among the new features of the seventeenth annual issue of the Guide is a series of Continental maps and a chapter giving particulars as to the cost of Continental travel.

Summer Tours in Scotland. Price 6*d.* Published at 119, Hope-street, Glasgow.—Those who prefer to spend the best part of their holiday on the water will find ample opportunity for doing so by taking advantage of the excursions arranged by David MacBrayne's Royal Mail steamers *Columba*, *Iona*, &c. Where these steamers go and what is to be seen there the illustrated handbook before us well describes.

On Sea and Shore.—This little book describes a summer holiday ocean trip to the Highlands by the Aberdeen Steam Navigation Company, of Aberdeen Wharf, Limehouse, and 102, Queen Victoria-street. The voyage and the tours through Scotland are chattily described and well illustrated. A useful map accompanies the book.

A Summer Holiday in Holland. By CHANTREY CHURCHILL. Price 6*d.* (H. Grube, 12A, Paternoster-row, and G. Vickers, 1, Angel-court, Strand.)—This is really a guide to Scheveningen, the Dutch Brighton, but it also describes the towns and places of interest which can be easily reached from that popular holiday resort. For the tourist who visits Holland for the first time no more interesting and instructive guide-book could be desired.

The Little Man Island. By HALL CAINE. This charming guide to the Isle of Man can be obtained upon application to the Isle of Man Board of Advertising Office, 27, Imperial buildings, Ludgate-circus, E.C. With the aid of this little book and the *Sailing Arrangements* of the ISLE OF MAN STEAM PACKET COMPANY those in search of a novel and pleasant holiday field should be able to find what they require.

In bringing to a close our notice of the facilities afforded to travellers by the various railway and steamship companies we would point out that the space we have allotted to each individual company is not necessarily a measure of its importance. In some cases we have been supplied with quite a large quantity of holiday literature, while in others we have received only a few handbills.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On Enteric Fever at Helmsley, by Dr. BRUCE LOW.[1]—The inquiry as to a prevalence of enteric fever in this small market town, with a population of 1350, at the end of the Vale of Pickering, was made on the request of the local medical officer of health in view of the difficulty experienced in arriving at a cause of the outbreak. There had been no enteric fever in Helmsley for some years, but in August, 1895, no less than 34 attacks took place, and before the end of September there had been 43 cases and 8 deaths. A few other cases occurred in two neighbouring districts, raising the total attacks to 60. The three conditions that had to be thought of in connexion with the origin of this outbreak may be considered separately. One was the influence of insanitary conditions, including deficient sewerage. This is discussed at great length, and it is clear there was much to be found fault with as regards sewerage, house drainage, and privy-middens; but though these may somewhat have favoured the spread of the disease, the unwholesome conditions referred to do not appear to have affected the diffusion in any marked degree, and the only defect that could be looked upon as having had any general or substantial influence on the health of the place was the state of the beck with its accumulation of filth in dry weather. Notably was this the case when after such accumulations a sudden flood spread this filth over the sides of the stream, and the stuff mingled with sand and gravel was used to repair a certain footpath near houses. The water-supply and its alleged pollution had next to be considered. The water comes from a spring about a mile outside the little town, the supply being piped, and supplemented on occasion by other springs. After a connexion had been made with an additional spring some flags had been disturbed, and pollution by human excreta must almost necessarily have occurred. Indeed, there was much in the ultimate distribution of the fever to implicate the water-supply; but by this time a more definite explanation, and one that sufficed better to meet the difficulties involved, had been made out. This third point was the specific contamination of a particular milk-service. Enteric fever in an obscure form was imported into one of the milk-seller's households, and it spread under circumstances that made its diagnosis very uncertain at the time; but there is little doubt that there was community of tending the sick and of milking cows and other dairy operations which can hardly have failed to lead to contamination of the milk. That the milk-supply did become infected must be accepted as proved, and that as a consequence enteric fever was spread amongst the consumers of the milk cannot be open to doubt. Exceptional incidence of the disease was also noticed in the neighbourhood of the dairy whence it is known that a considerable number of persons took their milk-supply. Dr. Porter, the medical officer of health, had already suspected this milk-service, and he arranged that the duties of supplying milk should be forthwith transferred to other hands. Within a fortnight of this the disease came to an end. We have only glanced at a report which, with its plates, &c.,

[1] Eyre and Spottiswoode, East Harding-street, E.C.; John Menzies and Co., Edinburgh and Glasgow; Hodges, Figgis, and Co., Limited, Dublin. 1896. Price 9*d.*

covers nearly twenty pages, and which embodies the story of a very careful piece of etiological research; a study of the complete document will be of interest especially to those engaged in the public health service.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Cheltenham Urban Sanitary District.—Dr. J. H. Garrett has had the common lodging-houses of Cheltenham re-measured and re-ticketed during 1895, but he relates that on a night visit of one of the inspectors the by-laws were found in several instances to be flagrantly contravened and that four lodging-house keepers were prosecuted. In commenting upon the need for improved supervision of dairies, cow-sheds, and milkshops, Dr. Garrett expresses the opinion that the frequent inspection of the houses and of testing for tuberculosis of the milch cows by a veterinary surgeon is the only procedure likely to materially guard against the sale of tuberculous milk. The corporation have installed electric light in Cheltenham, and this fact, Dr. Garrett observes, affords to owners and occupiers of factories and workshops the opportunity of avoiding the pollution of air by the consumption of gas. The corporation has also, with a view to abolishing private slaughter-houses, applied for a provisional order for the compulsory closure of these places, there being in Cheltenham a good public abattoir. Dr. Garrett, in speaking of the Gloucester small-pox disaster, remarks that this town, by its "anti-vaccination craze," has become a standing danger to every other town around with which it has communication. Considerable additions have been made to the Delancey Fever Hospital during the year under review, and we learn from the annual report of that institution that a new wing for the accommodation of scarlet fever and enteric fever cases was opened in July. Diphtheria is not yet provided for, but it seems that next year the isolation of this disease in the hospital is to be arranged for by the erection of a diphtheria block.

Maidstone Urban Sanitary District.—Mr. M. A. Adams reports that in his district the mean age at death for the year 1895 was 36·95, a rate which exceeds the average of the previous seventeen years by 3·73. The main causes of this excess were, Mr. Adams points out, the relatively few deaths among young children, especially during the second quarter of the year, and the excessive mortality among the very aged during the extremely low temperature of the first quarter. Mr. Adams draws attention to the fact that the cold had apparently no commensurate fatal effect upon infant life, and that, probably owing to the care taken by mothers, infants get through the severe weather well. In dealing with the interesting subject of measles Mr. Adams observes that there would appear to be an increased rather than a diminished tendency towards the prevalence of that disease, a fact which he regards as in all probability due to facilities for infection as afforded by the elementary schools. Certainly there has not gone hand-in-hand with compulsory education a sufficient regard for the control of this dangerous disease. Mr. Adams is apparently not in favour of the notification of measles unless it can be accompanied with *compulsory* hospital isolation, and even in regard to isolation he doubts whether it would be practicable to deal with such young children apart from their parents. We must confess we are not entirely in accord with Mr. Adams on either of these points, and, while fully recognising the difficulty and perhaps impossibility of controlling measles in such a satisfactory fashion as is possible with some other infectious diseases, we think much good might be done by notification even as apart from hospital isolation, more especially in the way of excluding from school the children from infected houses and of thus preventing the necessity for school closure. Mr. Adams reports that 18 cases of enteric fever were notified to him during 1895, and in one of the cases the evidence tends towards incriminating certain oysters eaten at Southend. The facts are these. Five persons went for the day to Southend, and the patient above referred to was the only one who ate oysters and the only one who was subsequently attacked with typhoid fever. Mr. Adams states that he has good reason for believing that this case is not the first instance of typhoid fever occurring at Maidstone which was to be traced to the consumption of infected oysters at Southend. We are glad to see that Mr. Adams has continued his very valuable records of the movements of subsoil water at Maidstone and that he has embodied the figures for 1895 in his report. A considerable portion of the interesting report before us is devoted to a consideration of the death-rate of Maidstone for the past twenty-six years, and a comparison of it with that of England and Wales for the same period. Mr. Adams shows that a large number of lives have been saved in Maidstone through the reduction of the death-rate during the period he deals with, and he demonstrates by an analysis of the figures the important fact that the chief reduction in the death-rate of Maidstone has taken place during the warmer months in each year—i.e., at a time when the effects of wise sanitary measures would be most likely to be apparent. This part of Mr. Adams's report will be read with much interest by those to whom the subject is important in Maidstone.

Southampton Port Sanitary District.—The port of Southampton is, Mr. Wellesley Harris states in his report, rapidly increasing in prosperity, and in a proportionate degree the risks of the importation of infectious disease are also multiplied. The sanitary authority is urged to draw up and adopt regulations under Section 125 of the Public Health Act similar to those in force at Liverpool and other large ports. During 1895 four cases of small-pox were imported by ships, but in each case the patient was removed from the vessel off Netley and conveyed to the Port Sanitary Hospital. Before the hospital was in use small-pox had to be isolated in the worst portion of Southampton, and the infection, Mr. Harris reports, rapidly spread from the hospital to the inhabitants living in the immediate vicinity. It is interesting to note that several cases of Beri-beri were brought by ships into Southampton Docks, and Mr. Harris was able to arrange for their admission into Netley Hospital. The small area of cubic space for seamen, as fixed by the Merchants Shipping Act, 1867, is made the subject of comment by Mr. Harris, who urges the desirability of increasing it. He points out that it is a difficult matter for the port sanitary officials to insist on improvement in structural details when they have already been passed by the Board of Trade. Doubtless the plan proposed by Dr. Collingridge in the report which we recently noticed in these columns would very materially assist in bringing about a better state of affairs. Arrangements are made at Southampton with the shipping companies frequenting the port for removal of small-pox cases prior to the arrival of the infected ship in port and for disinfecting infected articles and cabins. Mr. Harris refers to the prospect of the Quarantine Acts being repealed, and he not unnaturally suggests that part of the money saved by the disestablishment of the machinery of quarantine should be devoted to assisting port sanitary authorities in their work.

Bacup Urban Sanitary District.—Dr. John Brown reports that during September, October, and November, 1895, there were several cases of lead poisoning of a mild type in his district. Colic and anæmia, he states, were the chief symptoms. The cases were, it seems, associated with the public water-supply, and Dr. Brown suggests that the water committee should make experiments with lead piping lined with a non-metallic substance with a view to adopting it if it appears satisfactory. Most of these devices are somewhat costly and difficult to manage when bending is necessary.

Warrington Urban Sanitary District.—Mr. John Gornall, in referring to the necessity for providing a separate small-pox hospital as remote as practicable from the population, warns the Warrington sanitary authority in these words: "I would call to your remembrance the importance of the separation of a small-pox hospital from centres of population and remind you of the painful lesson that followed the contravention of this principle in our own case in 1892." Mr. Gornall quotes from the recent Memorandum on Isolation Hospitals issued by the Local Government Board, in which suggestions are made in reference to the conditions which should be observed in selecting a site for a small-pox hospital, with a view of diminishing as far as seems practicable at present the dangers which must necessarily attach to the establishment of such hospitals in the vicinity of towns. Mr. Gornall and the borough surveyor have, it appears, provisionally chosen a site which conforms to these conditions, and a map is supplied in the report showing the houses in the several zones around the site. It is surely unnecessary to insist that the Warrington sanitary authority should act without delay on the advice of their medical officer of health and not again expose their district to avoidable risks. Mr. Gornall reports that during last summer the river Mersey near Warrington gave off "most filthy emanations," which were a source of discomfort to the occupiers of the adjoining houses. The condition of the Manchester Ship Canal, owing to its proximity to Warrington, is a matter of much concern to the inhabitants of that borough, more especially as the

town is developing southward towards the canal. Up to the present there has been, Mr. Gornall states, but little to complain of in the condition of the Canal.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6261 births and 3598 deaths were registered during the week ending June 20th. The annual rate of mortality in these towns, which had been 17·8 and 16·7 per 1000 in the two preceding weeks, rose again last week to 17·3. In London the rate was 16·2 per 1000, while it averaged 18·1 in the thirty-two provincial towns. The lowest rates in these towns were 10·2 in Derby, 11·0 in Croydon, 13·2 in Swansea, and 13·7 in Bradford; the highest rates were 21·0 in Portsmouth, 21·6 in Birmingham, 21·9 in Sunderland, 22·4 in Manchester, and 23·0 in Salford. The 3598 deaths included 591 which were referred to the principal zymotic diseases, against 559 and 541 in the two preceding weeks; of these, 210 resulted from measles, 114 from diarrhœa, 111 from whooping-cough, 71 from diphtheria, 46 from scarlet fever, 39 from "fever" (principally enteric), and not one from small-pox. The lowest death-rates from these diseases were recorded in Blackburn, Swansea, Plymouth, and Brighton; and the highest rates in Leicester, Manchester, Salford, Oldham, and Hull. The greatest mortality from measles occurred in West Ham, Nottingham, Sheffield, Manchester, Oldham, Gateshead, and Hull; from scarlet fever in Salford; from whooping-cough in Sunderland, Cardiff, and Huddersfield; from "fever" in Birkenhead; and from diarrhœa in Salford and Leicester. The 71 deaths from diphtheria included 40 in London and 13 in Manchester. No fatal case of small-pox was registered during last week in any of the thirty-three large towns. There were 41 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, the 20th inst., against 19, 25, and 27 at the end of the three preceding weeks; 18 new cases were admitted during the week, against 3, 8, and 9 in the three preceding weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2811, against 2679, 2717, and 2781 on the three preceding Saturdays; 309 new cases were admitted during the week, against 297, 318, and 352 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had declined from 230 to 183 in the three preceding weeks, further fell to 162 last week, and were 56 below the corrected average. The causes of 59, or 1·6 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Cardiff, Bradford, Newcastle-upon-Tyne, and in fourteen other smaller towns; the largest proportions of uncertified deaths were registered in Bristol, Swansea, Birmingham, and Liverpool.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 19·2 and 18·5 per 1000 in the two preceding weeks, rose again to 18·9 during the week ending June 20th, and exceeded by 1·6 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 15·6 in Edinburgh and 15·7 in Paisley to 23·9 in Perth and 24·4 in Greenock. The 553 deaths in these towns included 33 which were referred to measles, 18 to diarrhœa, 16 to whooping-cough, 5 to scarlet fever, 5 to diphtheria, and 5 to "fever." In all, 80 deaths resulted from these principal zymotic diseases, against 81 and 69 in the two preceding weeks. These 80 deaths were equal to an annual rate of 2·7 per 1000, which was slightly below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 25 and 21 in the two preceding weeks, rose again to 33 last week, of which 26 occurred in Glasgow and 5 in Dundee. The 18 deaths from diarrhœa showed a slight further increase upon recent weekly numbers, and included 5 in Glasgow and 4 in Edinburgh. The fatal cases of whooping-cough, which had declined in the five preceding weeks from 38 to 23, further fell to 16 last week, of which 13 occurred in Glasgow. The deaths referred to scarlet fever, which had been 8 and 4 in the two preceding weeks, were 5 last week, and included 2 in Leith. Of the 5 fatal cases of diphtheria, 2 were recorded in Glasgow and 2 in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had been 93 and 82 in the two preceding weeks, rose again to 87 last week, and were within 10 of the number in the corresponding period of last year. The causes of 34, or 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 19·8 and 23·7 per 1000 in the two preceding weeks, declined again to 22·5 during the week ending June 20th. During the past twelve weeks of the current quarter the death-rate in the city has averaged 23·1 per 1000, the rate during the same period being 3·2 in London and 1·9 in Edinburgh. The 151 deaths registered in Dublin during the week under notice showed a decline of 8 from the number in the preceding week, and included 18 which were referred to the principal zymotic diseases, against 8 and 10 in the two preceding weeks; of these, 6 resulted from diarrhœa, 5 from whooping-cough, 4 from scarlet fever, and 3 from "fever." These 18 deaths were equal to an annual rate of 3·7 per 1000, the zymotic death-rate during the same period being 3·2 in London and 1·9 in Edinburgh. The 6 fatal cases of diarrhœa exceeded the number recorded in any recent week. The deaths from whooping-cough, which had been 1 and 4 in the two preceding weeks, further rose to 5 last week. The 4 fatal cases of scarlet fever also showed a further increase upon recent weekly numbers. The deaths referred to different forms of "fever," which had declined from 5 to 2 in the three preceding weeks, were 3 last week. The 151 deaths in Dublin last week included 25 of infants under one year of age, and 38 of persons aged upwards of sixty years; the deaths of infants showed a decline, while those of elderly persons slightly exceeded the number in the preceding week. Three inquest cases and 5 deaths from violence were registered; and 49, or nearly a third, of the deaths occurred in public institutions. The causes of 8, or more than 5 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

MOVEMENTS OF THE ARMY MEDICAL STAFF.

BRIGADE-SURGEON-LIEUTENANT-COLONEL BARRY, M.D., Senior Medical Officer at Curragh, will retire from the service next month on his reaching the age of fifty-five.

ARMY MEDICAL STAFF.

Brigade-Surgeon-Lieutenant-Colonel Henry Stannard retires on retired pay.

INDIA AND THE INDIAN MEDICAL SERVICES.

The following appointments have been made:—Surgeon-Major Addison, A.M.S., to Medical Charge of the Station Hospital at Kirkee. Surgeon-Captain C. E. Sunder, Resident Surgeon, Eden Hospital, Calcutta, to act as Civil Surgeon of Rangpur, during the absence on deputation of Surgeon-Major J. H. T. Walsh. Surgeon-Lieutenant C. R. Stevens, on supernumerary duty in connexion with anti-choleraic inoculation, to be Resident Medical Officer of the Medical College Hospital, Calcutta, vice Surgeon-Captain C. E. Sunder, transferred. Surgeon-Lieutenant Kukdy is transferred from the Poona to the Deesa District.

MILITIA MEDICAL STAFF.

Surgeon-Lieutenant-Colonel J. H. Wright, 3rd Battalion the Duke of Wellington's (West Riding Regiment): resigns his commission, also is permitted to retain his rank and to wear the prescribed uniform on his retirement.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant Walter A. Atkinson, M.B., to be Surgeon-Captain. Surgeon-Lieutenant Henry George Outram Collett, 1st North Riding of Yorkshire Volunteer Artillery, to be Surgeon-Lieutenant. Surgeon-Lieutenant Samuel John James Kirby, 2nd Volunteer Battalion the Suffolk Regiment, to be Surgeon-Lieutenant.

VOLUNTEER CORPS.

Artillery: 7th Lancashire (the Manchester Artillery): Surgeon-Captain R. A. S. Daly to be Surgeon-Major. 8th Lancashire: Joseph David Wright, M.B., to be Surgeon-Lieutenant. *Rifle:* 13th Middlesex (Queen's Westminster): Bertram H. Lyne Stivens, M.D., to be Surgeon-Lieutenant. 1st Volunteer Battalion the Manchester Regiment: Surgeon-Lieutenant W. F. O'Grady to be Surgeon-Captain. 5th (Deeside Highland) Volunteer Battalion the Gordon Highlanders: Surgeon-Major G. Cran, M.D., to be Surgeon-Lieutenant-Colonel.

VOLUNTEER MEDICAL STAFF CORPS.

The Maidstone Company: Surgeon-Captain H. F. H. Barham resigns his commission.

THE RISING IN MASHONALAND.

There has been a good deal of hard fighting in Mashonaland, and the news generally is far from satisfactory, for it shows that the native rising has greatly extended. From the present aspect of affairs it looks very much as if reinforcements from this country for South Africa would be required. It is curious how little we know of the hospital arrangements and of the condition of the wounded in connexion with what is taking place. It seems that the experience obtained in Matabele in regard to the Lee-Metford bullet is very similar to that which was found to have been the case in Chitral—viz., that the bullet is defective in "stopping" power. The natives assert that unless the bullet struck a vital part it did not prevent the Matabeles from continuing the fight, although numbers of them died subsequently from the effects of the wounds inflicted by the Lee-Metford rifles. Experiments conducted in India and this country have led to some alterations by which this defect has been satisfactorily overcome. The alteration proposed in India will not, it is alleged, interfere with the present sighting of the rifle.

THE SOUDAN CAMPAIGN.

Since our capture and occupation of Firket and Suarda there has been little or no fighting in the Soudan. All who have had an opportunity of seeing the county around these places seem to be agreed as to the correctness of the information obtained by the Intelligence Department of the Egyptian Army. The rule of the Dervishes has been one of terrible cruelty; the country, once so fertile and cultivated, has been quite laid waste; all trade has been destroyed, and the native population generally are only too glad to welcome an expedition which will rid them of the oppressive rule under which they have been living. The government of the Egyptians when they held the country was no doubt also very bad, but we may confidently believe that under English guidance it will soon be very different and that the unfortunate people will be allowed to follow their agricultural pursuits in peace. The Anglo-Egyptian expedition is healthy, and the hospital and sick transport services are working satisfactorily.

RETIREMENT OF SURGEON-LIEUTENANT-COLONEL CARLESS OF DEVIZES.

Surgeon-Lieutenant-Colonel E. N. Carless, M.B., C.M. Aberd., the medical officer of health for Devizes, who has been associated with the 2nd V.B. Wilts Regiment as medical officer for nearly a quarter of a century, has just resigned his commission, and has been granted permission to retain his rank and continue to wear the uniform of the regiment on retirement. He has the volunteer officer's decoration, and has rendered much useful service at regimental and brigade camps and he inaugurated the ambulance movement in the battalion, which has since led to the establishment of a properly equipped bearer company for the brigade. His retirement is much regretted.

FEMALE DEVOTION REWARDED.

The French War Minister has awarded medals of honour to two ladies in connexion with the Madagascar Expedition. The recipients are Madame Jay (in religion Sister Zénaïde), Superior of the Saint Joseph de Cluny Mission, who throughout the operations exhibited the utmost devotion in the hospital at Majunga, and who, moreover, reckons upwards of fifteen years' service in the island; and Miss Christina Byam, for thirteen years the directress of the English hospital at Soavinandriana. The latter establishment served as an annex to the military hospital at Antananarivo, being utilised chiefly for sick officers and wounded soldiers.

SURGEON-MAJOR-GENERAL TAYLOR.

We are glad to learn that Surgeon-Major-General W. Taylor, M.D., is to remain supernumerary pending his absorption in due course when the officer who stands next senior to him as Surgeon-General is promoted. It is only a fair and just arrangement to the medical service generally that the State should not reward an officer at the expense of other officers by retarding their promotion. It is quite right that an officer should be rewarded for services rendered, and Surgeon-Major-General Taylor's work in the late campaign in Ashanti was fully entitled to recognition. We have only to add our congratulations on his promotion.

Correspondence.

"Audi alteram partem."

THE COUNCIL OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

To the Editors of THE LANCET.

SIRS,—In formulating any scheme for the improvement of the constitution of the Council it is clearly evident that one must have regard, in the very first instance, to the *raison d'être* of the College itself. This has been set forth, first in the Charter of 1800, and repeated in many subsequent Charters, as being for "the promotion and encouragement of the study and practice of the art and science of surgery." This duty was entrusted to a body which has had various names and is now known as the Council of the College. It was given the privilege of admitting men under certain conditions to the Membership of the College, and thereby of licensing them to earn a living by becoming practitioners of surgery. Until the year 1844 the members of the Council (twenty-one in number) were self-elective—i.e., when a vacancy occurred it was filled up by the votes of the remaining members from the general body of Members. A council so constituted could, of course, have no claim to the confidence of the general body of Members, and, as might have been expected, abuses of many kinds were rampant in the management of the College. By the Charter 7th Victoria, 1843, however, a master hand in diplomacy altered this state of affairs. By this charter a new class of Members was created, who were to be known as "Fellows."

The Council was given power to elect before the expiry of one year from the date of the charter such Members of the College as seemed to them fit and proper persons to be created "Fellows"; and after this period no person was to obtain the Fellowship unless he had attained the age of twenty-five and complied with the regulations of the Council, nor unless he had passed such special examination as the Council might from time to time think fit. Among these regulations one of the most important was that of the extension of the usual period of study. It was further declared by this Charter that, while the already existing twenty-one members of Council were to hold office, as heretofore, for life, in July of the following year three new members were to be added to the Council, and that as vacancies occurred by the death of original or life members these were to be filled up in the same manner as the additional three of 1844. Now herein comes the master stroke of far-sighted diplomacy. These new members of Council were to be elected by the general body of Fellows, and, further, from their number only. In this way perhaps the greatest impetus to the "promotion and encouragement of the study and practice of the science and art of surgery" was given which the annals of the College can boast of. Men of good parts were directly encouraged to spend a longer time at their studies and to aim at a higher diploma. As inducements to this they were made eligible for membership of the Council, and they alone were empowered to vote for members of this body. While this encouragement to the pursuit of higher surgery was given, the old-time, close, and utterly objectionable constitution of the council was abrogated, and not only so, but security was given that future members of it should be chosen only (as far as could be done) from those who, broadly speaking, were the best educated Members of the College, who had shown themselves to be the most enterprising and energetic, and who perhaps took the greatest interest in the affairs of the College. I need hardly pause here to say that most undoubtedly there are many men among the ranks of "Members" simply who are in every respect as worthy of the rank of Fellow as if they possessed it, but who through

force of circumstances have chosen to remain Members only. I speak in a broad sense.

It is proposed now that "Members" of the College, as such, should also elect representatives on the Council. For what object? And what will be the result if the proposal be carried out? The use of the word "representative" in connexion with Members of the Council is very singular. An examination of the Charters gives no warrant for it whatever. The Council is a body created or chosen to carry on the work of the College. No Member of it has any warrant for saying that he is such as representing the interests of any portion of the body corporate. He represents the entire body—the College itself. There are no interests of the Fellows apart from those of the Members, nor have the latter any apart from those of the former. The Council is an academic body with objects and functions apart from those of the profession generally. They have to admit candidates into the ranks of the profession, to maintain the library, museum, &c., and to uphold the interests of those who hold their diploma. Can it be truly said that they fail to fulfil those duties? As has been said by Sir Wm. Erichsen, "The only way to establish the claims of the Members would be to rest their case on the only ground that would be unassailable—namely, that the Council has been negligent of, or indifferent to, the conduct of its affairs, and that its interests, material, educational, and scientific, have consequently suffered in its hands."[1] Can this be truly said of the Council at the present day? I confess that when I first took my seat as a Member, I was somewhat prejudiced against it as a body, partly by reading *ex-parte* articles in the medical journals, but above all by the gratuitous difficulty which was thrown in one's way in voting for members of the Council. For eleven months in the year one was left in peaceful happiness. Then came the time of an election, with a most roundabout, troublesome system of voting, which was agonising and blood-boiling, and led one to think that the articles one had read must be true, and that the Council was a conservative, out-of-date body of men. Happily, this is now all changed, and the manner of voting is simplicity itself. Having uttered this growl I am happy in making the *amende honorable*, and declaring that I have found the Council most anxiously solicitous to carry out its duties in a business-like manner. Indeed, the very opposite of my previous ideas now possesses me, inasmuch as it appears sometimes over anxious to appease its critics, and to "wear its heart upon its sleeve for daws to peck at." I hold that a member of Council should be free to act as his best judgment advises him, and not to feel hampered as the nominee or representative of some party which has "carried him in" to support some line of policy. But if in the future "representatives" of the Members be sent to the Council, what then? After a little while some of those gentlemen would begin to ask themselves, Why are we here? The result would be the introduction of topics for discussion wholly apart from those pertaining to an academic body, but which rightly belong to the whole republic of the medical profession, wheresoever its Members may have gained admittance to it. These are subjects for the consideration of voluntary societies, such as the British Medical Association, the Medical Defence Union, and so on, and are concerned with the furtherance and protection of the interests of their members, individually or as a whole. To introduce such subjects—most legitimate in their proper place—would inevitably tend to lower the position of the Council.

An argument for the representation of Members has been used which appears to me to be the veriest clap-trap. It is said that taxation means representation. But when a man prepares to enter the medical profession and makes up his mind as to which portal he will pass through he knows what the costs are. He pays his fees and he receives his *quid pro quo*: he receives a Licence to practise and to earn his livelihood by the practice of surgery. The expenses of the institution which gives him his Licence must be provided for, and if not by these Licentiates, then by whom? Notwithstanding all the able articles which have appeared in the columns of THE LANCET to the contrary, I cannot believe that there is any widespread desire on the part of Members of the College to be represented on its Council. It appears to me that the agitation is kept up by a mere handful of men in and around London, who meet over and over again. Nor is there any extensive knowledge of "College politics" either among the Members or Fellows. Most of them to whom one speaks on the subject say, "What is all the row about?" or something equivalent.

Finally, I feel very strongly that if this movement be successful it will be a distinctly retrograde step. Men will think twice before undergoing the severe ordeal for the Fellowship, with its barren honours. They will think, Why all this when I can get as much by being a Member? And hence the promotion of the science and art of surgery will suffer. I appeal strongly to my colleagues in the Fellowship to do all they can to resist this movement.

I am, Sirs, yours faithfully,

Manchester, June 20th, 1896. JAMES HARDIE.

*** Our own views are, as is well known, diametrically opposed to those set forth above by our correspondent. But we are always desirous to give fair hearing to both sides, and willingly publish the letter of a distinguished provincial surgeon, who is himself a member of the Council of the College.—ED. L.

[1] Rivington: The Medical Profession. 1887.

DIRECT REPRESENTATION ON THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—As my esteemed colleagues in the representation of England and Wales have thought that the time has come for announcing their resignation, it is but respectful to my fellow practitioners that I should take this early opportunity—by your favour—of saying that it is my intention to solicit again the honour of re-election at their hands. Though a bad judge, I am not conscious of having done anything in the Council to discredit the principle of direct representation, or to forfeit the kindness and confidence of the profession which have twice placed me there as one of its elected representatives. Other opportunities will soon occur of stating my views to the registered practitioners of England and Wales; but I shall ask you meanwhile to kindly publish the following correspondence, which will explain my opinions on some questions of importance. I may be allowed in one sentence to say that, whatever the choice of the profession at the next election, I consider the loss of Mr. Wheelhouse and Sir Walter Foster a very real one to the Council and to the profession.

I am, Sirs, your obedient servant,

Highbury, N., June 23rd, 1896. JAMES GREY GLOVER.

Incorporated Medical Practitioners' Association,
Registered Office, 11, Adam-street, Strand, June 15th, 1896.

DEAR SIR,—I am directed by the Central Council of this association to say that as it is reported that you may probably present yourself as a candidate for election as a direct representative on the General Medical Council at the forthcoming election, my council would be glad to know your views on questions of importance to the medical profession. The council would therefore feel obliged if you would favour me with an answer to the following questions at your earliest convenience. Thanking you in advance.

I am, dear Sir, yours faithfully,

Dr. J. G. Glover. FRANK GREAVES, Hon. Sec.

1. Would you, if elected, support a motion in the General Medical Council advocating a complete reform of the Medical Acts?
2. What action would you take in the Council concerning a proposal to register midwives as independent practitioners?
3. Would you support any motion in the Council condemning the holding of appointments under medical aid associations which make a profit out of their medical officers, and which canvass from door to door for patients?
4. Would you support a motion in the Council asking for the appointment of further direct representatives upon the Council, as provided for in the Medical Act of 1886?

25, Highbury-place, June 19th, 1896.

DEAR MR. GREAVES,—As it is my intention to offer myself again as a candidate for the office of direct representative of the profession—to which the profession has twice done me the great honour to elect me—I gladly respond to your letter as the Hon. Sec. of the Incorporated Medical Practitioners' Association inquiring my views on four specific questions. Yours very truly, J. G. GLOVER.

1. Would you, if elected, support a motion in the General Medical Council advocating a complete reform of the Medical Acts?

I should support an amendment of the Acts in the way of strengthening and making more clear and effective the clauses against all false, fraudulent, and unqualified forms of practice as well as against the misleading use of titles, and of increasing the proportion of direct representatives of the profession.

2. What action would you take in the Council concerning a proposal to register midwives as independent practitioners?

While impressed with the necessity of saving poor lying-in women from death and disease at the hands of midwives ignorant of the first principles of puerperal hygiene, I should be strongly opposed to any Bill which did not make clear the non-medical function of the midwife and the need for her being supervised by a medical practitioner in all unusual cases.

3. Would you support any motion in the Council condemning the holding of appointments under medical aid associations which make a profit out of their medical officers and which canvass from door to door for patients?

Such methods of practice are inconsistent with justice to private practitioners, with the best traditions of the profession, and with the

real interests of the public. Primarily the condemnation of them is the duty of the qualifying bodies of the profession. (I have taken some pains in the Council—not without some success—to quicken in all the qualifying bodies the sense of responsibility for the use of their disciplinary powers.) But I have already proposed or supported their condemnation in the Council, and should do so again if necessary.

4. Would you support a motion on the Council asking for the appointment of further Direct Representatives upon the Council as provided for in the Medical Act of 1886?

I should support such a motion with pleasure.

To the Editors of THE LANCET.

SIRS,—At the annual meeting of the Lancashire and Cheshire Branch of the British Medical Association held to-day it was resolved to recommend and support the candidature of Dr. Samuel Woodcock, Dr. Glover, and Dr. Lovell Drage as Direct Representatives of the medical profession in the General Medical Council.

I am, Sirs, yours faithfully,

Southport, June 24th, 1896. JAMES BARR, Hon. Sec.

To the Editors of THE LANCET.

SIRS,—I read in THE LANCET of to-day that Sir Walter Foster and Mr. Wheelhouse will not seek re-election on the General Medical Council. I regret this step on the part of Sir Walter, as I have thought it useful to have a member in Parliament on the Council. Sir Walter, in conjunction with his colleagues, Mr. Wheelhouse and Dr. Glover, have done much useful work in the interest of the profession and in the cause of the general practitioner, but I think with the voice of the great majority of the profession, as they evidently do think, that the three direct members of the General Medical Council should all be general practitioners. As a probable candidate I have enclosed you my answers to the questions submitted to me by the honorary secretary of the Incorporated Medical Practitioners' Association. At the last election I obtained 4818 votes; should I again seek the honour this encouragement with many promises of support that I have received from my friends must be my apology.

I am, Sirs, yours very truly,

FREDERICK H. ALDERSON, M.D.,

Vice-President of the Incorporated Medical Practitioners' Association, Hon. Vice-President of the West London Medico-Chirurgical Society.

June 20th, 1896.

Dr. Alderson's Reply to Questions submitted by the Hon. Sec. of the Incorporated Medical Practitioners' Association.

[COPY]

1. Yes, the amendments proposed by the British Medical Association meet with my approval and with a few additions might be desirable to accept and all perhaps that would be attainable.

2. I should oppose any Bill that would create a new order of partly qualified practitioners, and thus violate the principle of the Bill of 1886. At the same time I am not opposed, and believe some legislation is necessary to control and prevent the present unlicensed (and in many cases lamentably ignorant) practice of midwives in poor neighbourhoods. The midwife should be known and legally described as an obstetric nurse and the term midwife should never be used officially; and in my opinion it is desirable that the practice of the obstetric nurse should be under the supervision of the general practitioner, and in the present crowded state of the profession is quite feasible. I am in favour of the suggestion of Dr. Fraser as mentioned in THE LANCET of Feb. 28th, and especially as to the need for the registration of still births.

3. Yes, I am strongly opposed to medical aid associations that make a profit of the skill and labour of their medical officers and which canvass from door to door. It is this practice that has proved so inimical to the interests of the general practitioner, but in my opinion the only effectual remedy is to render the practice illegal by the General Medical Council.

4. Yes, I have advocated in my speeches and by writing for many years for an increase to the number of the direct Members to the General Medical Council, and this effort shall have my strong support.

June 16th, 1896. FREDERICK H. ALDERSON, M.D.

To the Editors of THE LANCET.

SIRS,—Since the announcement in your issue of Saturday last that Sir Walter Foster and Mr. Wheelhouse do not propose to offer themselves for re-election as direct representatives on the General Medical Council I have received numerous inquiries as to whether I purpose to again come forward as a candidate. I shall feel obliged if you will allow me to state through your columns that when the proper time arrives I intend to issue an address to my brother practitioners soliciting their support at the forthcoming election.—I remain, Sirs, yours faithfully,

GEORGE BROWN,

Ex-President of the Incorporated Medical Practitioners' Association.

Charing-cross-road, W.C., June 24th, 1896.

To the Editors of THE LANCET.

SIRS,—The announcement in THE LANCET of June 20th that Mr. Wheelhouse and Sir Walter Foster will not seek re election on the General Medical Council is hardly a surprise. That they should have been willing to fight for ten years the battle of the profession on a Council in which the direct representatives are outnumbered as five to one proves two things: (1) their *patience*, and (2) their *fighting capacity*. But it must have been a weary warfare in a hopeless minority, "supported" by that disorganised rabble called "the profession." And I wonder how much encouragement, how many "votes of thanks" they have received? ("Thanks" cost little and should be plentiful.) I noticed lately in the pages of the *British Medical Journal* that Dr. Lovell Drage had been invited to become a candidate in opposition either to Mr. Wheelhouse or Sir Walter Foster, on the ground that a "general practitioner" was required. Now, I have the highest regard for Dr. Drage, but to those who invited him to oppose—if they be general practitioners—I would say they are guilty of base ingratitude. No two men could have more honourably and faithfully carried out the duties entrusted to them by the vote of general practitioners than Mr. Wheelhouse and Sir Walter Foster. But, Sirs, the purpose of this letter is not to praise those who are beyond praise, but to ask, Is it really worth while filling up the vacancies on the General Medical Council which will occur next November?

I suggest the negative for the following general reasons: (1) That the Government of the profession by the General Medical Council is virtually "government by schoolmasters"; (2) that the work done by it fails to justify its existence; (3) that if the profession at large elect members (direct representatives) they by so doing recognise an effete body.

Better let it severely alone—"let it stew in its own gravy"—and I only hope that Dr. Glover and Dr. Bruce will follow the lead of Mr. Wheelhouse and Sir Walter Foster.

I am, Sirs, yours faithfully,

June 22nd, 1896. COLIN CAMPBELL.

THE ROYAL MEDICAL BENEVOLENT COLLEGE.

To the Editors of THE LANCET.

SIRS,—May I ask for space in your columns to acknowledge the receipt of 500 guineas collected from his patients by Mr. Hames in aid of the funds of the Royal Medical Benevolent College. I venture to hope that such success achieved by one medical practitioner may incite others to aid by enlisting the active practical sympathy of their patients in their several districts. I would take this opportunity of thanking the members of many of the branches of the British Medical Association for the grants voted in aid of the College. Last week the South-Eastern Branch, with which I have been associated all my professional life, voted £21 to the College and £21 to the British Medical Benevolent Fund. Such aid and such sympathy are simply invaluable to the governing bodies of both charities.

I am, Sirs, yours truly,

C. HOLMAN, M.D.,

Treasurer, Royal Medical Benevolent College.

Soho-square, W., June 23rd, 1896.

"THE CAUSE OF MALARIA."

To the Editors of THE LANCET.

SIRS,—The personal equation has to be discounted in assessing the value of all observations, particularly all microscopical observations. When a statement is made which is in complete opposition to general experience, cautious men, before accepting the statement, require to know something about the capacity and character of the person who makes it. In a matter so special and difficult as blood microscopy the observations of the amateur have a very different value from those of the practised and proved expert. The statements of the former, before they can be accepted, must be carefully substantiated by detailed evidence and, if possible, confirmed by men of recognised capacity, and this more especially if it be sought to overthrow on the strength of such statements so well established a theory and one so pregnant with vast practical consequences to mankind as that which recognises the causal relationship of the phenomena of malaria to Laveran's bodies. The responsibility of leading or misleading

opinion on so momentous a subject is very grave indeed, and it is the duty of any one who assumes this *rôle* to exercise every precaution in guarding against error and to produce his vouchers when called on.

These remarks are intended to be *apropos* of some of the statements made by Surgeon-Lieutenant-Colonel Lawrie in his paper in THE LANCET of June 20th. Therein he says of a certain patient who had fever for the first time last September that "crescents were discovered in his blood the day after the first attack commenced." He does not mention the name of the observer, and he gives no particulars which would enable a reader to form an opinion on the value of the observation. In common with many others I have always believed that the crescent form of the malaria parasite does not appear in the blood until the end of the first week or during the second or third weeks from the commencement of certain types of malarial fever. This has hitherto been the experience of all careful and practised observers who have given special attention to the point. Not to mention continental names, Thayer and Hewetson remark: "These forms are not seen during the first days, but appear generally during the second or third week." Until we have further details, therefore, Surgeon-Lieutenant-Colonel Lawrie must not expect pathologists to accept this statement so contrary to general experience. Further, if this observation was made by any or all of the "three competent observers" who afterwards failed to find the malarial parasite in the same patient on the first day of a subsequent attack of ague pathologists will be inclined to doubt the capacity of these observers, and therefore the value of the later observation and, of course, the validity of the conclusions Surgeon-Lieutenant-Colonel Lawrie draws from it. Assuming, however, that this last observation was correct (as it very well may be), it by no means follows that the organism which was subsequently found in the blood was the consequence and not the cause of the fever, as Surgeon-Lieutenant Colonel Lawrie has argued on *post hoc* principles. Spleen and liver and other organs, and not the peripheral blood, are well known to be the principal habitats of most varieties of the malarial parasite. If this be the case, for all Surgeon-Lieutenant-Colonel Lawrie knew and for all he has advanced, or, rather, not advanced, Laveran's bodies may have existed in the spleen or liver at the very time when his "three competent observers" searched in vain for them in finger blood. Why should an organism confined to the spleen not cause fever? A streptococcus in the skin gives rise to the fever of erysipelas. Local infections are constantly associated with fever. Why not plasmoidal infection of the spleen?

I would ask Surgeon-Lieutenant-Colonel Lawrie to explain what he means by "swarming movements." The malarial parasite exhibits three or four forms of movement which Surgeon-Lieutenant-Colonel Lawrie seems to have confounded together: (*a*) amœboid movement; (*b*) slow translation of pigment particles while the parasite is alive and within the red blood corpuscle; (*c*) more violent translation of pigment in the crescent-derived sphere and flagellated organism; and (*d*) Brownian movement of fragmented pigment in those intracorpuscular bodies which from compression by the cover-glass have been forced from the corpuscles and are lying free and probably crushed and dead in the liquor sanguinis. Intra- and extra-corpuscular "swarming" are, therefore, not always the same thing. One is a vital movement, the other—unless in the case of the crescent-derived spheres and flagellated bodies—is simply a Brownian movement of dead, disorganised matter. The "swarming" of leucocytes is, I presume, merely the ordinary vital amœboid movement of these bodies—a movement in no way analogous to the different kinds of movement of pigment in the malarial parasite. What Surgeon-Lieutenant-Colonel Lawrie describes as the evolution of a rosette body is easily explained. When the preparation in question was first put up, doubtless the film of blood was still rather thick, and, in consequence, the only part of the rosette readily seen was the more conspicuous central block of black pigment. After a time the attraction of cohesion between the slip and the cover-glass gradually compressed the corpuscle, spreading it out and rendering its contents more visible, so that the spores of the rosette came gradually and distinctly into view. This is a common occurrence and familiar to all who work with malarial blood. But even assuming, with Surgeon-Lieutenant-Colonel Lawrie, that Laveran's bodies are merely leucocytes inside or outside red blood corpusles, how explain, unless on the ground of imperfect visibility or observation, the fact that this particular leucocyte was not seen from the first? Does Surgeon-Lieutenant-Colonel Lawrie wish his readers to infer that a white blood corpuscle was created under his eyes? The reappearance of what Surgeon-Lieutenant-Colonel Lawrie calls "the original cell wall" I cannot pretend to explain, unless on the supposition that it had never disappeared, only, in consequence of imperfect focussing, seeming to do so. I cannot understand what Surgeon-Lieutenant-Colonel Lawrie means by the disappearance and reappearance of the cell wall of the leucocyte. Has the leucocyte a cell wall?

Those interested in this subject would, I feel sure, be glad if Surgeon-Lieutenant-Colonel Lawrie would re-state more explicitly and in greater detail the facts he argues from, and, above all, if he would give his authorities as well as careful drawings bearing on what he calls "signs of the well-marked relation of Laveran's bodies to the white blood cells." I confess, although I read it very carefully, I was not convinced by his first paper that any such relationship existed.

I am, Sirs, yours truly,

June 22nd, 1896. PATRICK MANSON.

PREVENTION OF DISASTER AT SEA.

To the Editors of THE LANCET.

SIRS,—The time is opportune once again to attempt to open the eyes of the authorities at the Board of Trade to the necessity of securing prompt and effective legislation as regards the prevention of disaster at sea as far as it depends on "colour- and night-blindness in look-out men" on board steamers. This is a special factor in collisions. The recent awful calamity will no doubt stir up engineering art to devise some means of greater precision and security in bulkhead appliances, so that under no circumstances could such an immediate and wholesale disaster occur. Our art is also concerned with prevention. Should two steamers crossing the Atlantic meet in swift opposing contact—which may God avert—there would be such loss of life as to make the nation tremble, and it might be found after the disaster that due attention had not been paid to the "eyes of the ship." Where, then, would this responsibility rest? The chilly reception accorded to the notable deputation of experts by the late President of the Board of Trade no doubt many of your readers remember. *Cui bono?* Unless the present Government is benumbed by the exuberance of legislative work or overplus of majority, it is to be hoped that a beneficent measure aiming at the saving of life from preventable disaster at sea might receive attention if properly brought to Mr. Ritchie's notice. I need only say I turn to THE LANCET as the sentinel of the profession to urge that this most pressing and ever imminent danger be averted which, if pooh-poohed, will some day bring widespread destruction and grief. Twenty-five years ago this was foreseen by me, and I make no doubt that hundreds of unrecorded deaths have ensued through neglect of the measures of precaution and prevention then urged, and many unexplained collisions due to similar causes have never been satisfactorily accounted for.

I am, Sirs, yours obediently,

R. A. CALDWELL.

Henrietta-street, Cavendish-square, W., June 22nd, 1896.

"LITHOTRITY: COMPLICATED AND SIMPLE."

To the Editors of THE LANCET.

SIRS,—I have read with much interest the lengthy paper on the above subject recently published in THE LANCET by Mr. Milton of Cairo, and as litholapaxy is an operation I am called upon to perform about forty times every month I should like to offer some remarks thereon. First, Mr. Milton is to be congratulated upon having successfully crushed what is almost certainly the heaviest stone ever thus treated—one of twelve ounces—the largest ever removed in this manner at the Civil Hospital here having been eight ounces, crushed by my predecessor, Surgeon-Lieutenant-Colonel Henderson, I.M.S., and I do not know of any other heavier calculus having been crushed in India. Mr. Milton gives rather faint praise to his own modification of the lithotrite and evacuator combined, and I would add to the objections he already sees to the use of the instrument

the great danger of presenting the unprotected serrated surface of the projected male blade to the bladder-wall during evacuation; thus the instrument is not only comparatively inefficient, but, what is worse, positively dangerous. The definition given of perineal lithotrity is generous, and the form of the operation effected by Mr. Milton is very slightly removed from that by the old stone crusher, as it is done through what is practically a lithotomy wound and entails as long a stay in hospital as the old lithotomy.

Mr. Milton fails to see what is gained by Keith's primal litholapaxy (the only operation, in my opinion, properly so-called), and then adds that he would "limit its application to cases in which it is impossible to pass the lithotrite down the penile portion of the urethra." If we interpolate the words "of sufficient power" after the word "lithotrite" in the above sentence we indicate precisely the cases for which Keith devised, performed, and recommended the operation, and the experience at Cairo, though small as compared with that at some Indian stations, must supply many such instances both among children and adults. I append the last five years' results of (1) urethral litholapaxy and (2) Keith's operation at the Civil Hospital, Hyderabad, Sind.

	Urethral litholapaxy.	Cases.	Deaths.		Perineal litholapaxy.	Cases.	Deaths.
Mortality per cent., 1·3.	1891 ...	221	8	Mortality per cent., 1·97.	1891 ...	79	2
	1892 ...	328	5		1892 ...	45	1
	1893 ...	556	4		1893 ...	46	0
	1894 ...	313	3		1894 ...	56	2
	1895 ...	337	3		1895 ...	26	0
		1754	23			253	5

This represents the work of Keith up to May, 1894, and of Henderson for the rest of the period, and gives results which have probably never been surpassed, and which almost disarm criticism as to the methods pursued, while the figures for single years—e.g., 1893, the last year of Keith's service—are almost phenomenal. My own results since I took charge here on Feb. 1st last are—urethral litholapaxy, 151 cases and 1 death; perineal litholapaxy, 10 cases and 1 death; in all, 161 cases and 2 deaths; but the figures are too small to draw conclusions from.

I am, Sirs, yours faithfully,

RICHARD BAKER, M.A., M.D. DUB.,
Surgeon-Major, I.M.S.; Acting Civil Surgeon, Hyderabad, Sind.

June 2nd, 1896.

"TOXICOLOGICAL EFFECTS OF CREOLIN."

To the Editors of THE LANCET.

SIRS,—We note in your current issue that you have commented on an article of Professor Hobday's on "Toxicological Effects of Creolin." We need not point out to you the advantages contained in our preparations, as they are too well known to you, and we feel sure also that you are convinced that if our preparations and "creolin" are used in a properly diluted form, as indicated by us in medical literature—viz., in 1 per cent. to 3 per cent. solutions as directed—absolutely no harm can be done. The experiments by Professor Hobday are carried on with "creolin" in practically undiluted form, and of course no one can expect good results; just as much nobody would expect a tenfold dose of any potent drug if taken would pass off harmless; but what we say, plainly, and which we feel sure is correct, is that if our preparations and "creolin" are used in a properly diluted form no harm whatever can arise, and therefore we believe that we are perfectly entitled to quote our preparations "innocuous."—We are, Sirs, yours faithfully,

For Jeyes' Sanitary Compounds Co., Limited,
WM. PLANNER, Secretary.

June 24th, 1896.

MEDICAL CERTIFICATES AND BOARD SCHOOLS.

To the Editors of THE LANCET.

SIRS,—At a meeting of the Council of the London and Counties Medical Protection Society, Limited, held on the 2nd inst. they had before them a complaint of Mr. R. B. Hunt to the effect that the parents of a child attended by him had been prosecuted for the non-attendance of their child at school, notwithstanding that Mr. Hunt had given a certificate of the child's unfitness to attend which the school attendance officer declined to accept as it did not state the exact nature of the child's disease. After discussion the following resolutions were unanimously passed:—

"The Council is strongly of opinion that a medical certificate concerning absence from school without stating the condition of the absentee's disease should be considered satisfactory by the School Board. The Council is also strongly of opinion that in no circumstances should a medical man in his certificate name the disease from which the absentee is suffering unless he *shall* have been requested to do so by the parents or responsible guardian of the scholar."

At a meeting of the West Ham School Board on June 9th the chairman called attention to the above prosecution, and said the school attendance officer exceeded his duty in taking proceedings without consulting the school attendance committee. The chairman also said he would be quite satisfied with a medical man's certificate that a child was unfit to attend school, even though the nature of the illness was not stated—in fact, he did not believe the board had any legal right to demand a certificate as to the nature of the illness and that it might be a breach of medical etiquette to state what the illness was.—I am, Sirs, your obedient servant,

HUGH WOODS,
Hon. Secretary London and Counties Medical Protection Society, Limited.

New-court, Lincoln's-inn, W.C., June 22nd, 1896.

"THE REMUNERATION OF MEDICAL MEN."

To the Editors of THE LANCET.

SIRS,—I read with great interest "M.D.'s" letter on the above subject in THE LANCET of June 20th. There is undoubtedly much discontent and dissatisfaction amongst medical men, and I have heard many medical men say that they were extremely sorry they had ever qualified, not because they were not fond of their work or profession, but because they found themselves after years of hard work unable to pay expenses. It is all very well for hospital lecturers and consultants to din into the student's ears what a noble and glorious profession he has adopted, &c., but they do not consider what those students are to do when they are fully fledged medical men. The consultant, as a rule, has very little notion of what general practice is. I remember some years ago listening to an opening address delivered by a physician to one of our London hospitals in which he made the following statement: "If the practitioner is in any doubt about the diagnosis or is unable to diagnose a case he should never prescribe." This was told to an assembly of students, of whom some 95 per cent. or more would become general practitioners. I fear the gentlemen who acted on this advice would not have many patients to look after at the end of a few months. I think parents and their sons who wish to enter our medical schools should be told before joining of the struggle for existence and the overcrowded condition of the profession which now exists. The leading members of our profession should consider that we are not all in their position, and, to put it plainly, the general practitioner has his living to make. This, I fear, the hospital surgeon or physician ignores, and the great aim and object of our medical schools is to get as many students as they can and not to bother themselves in the least what is to become of them afterwards. The General Medical Council should be increased considerably by members of the profession in general practice; they are far better able to judge of the wants of the general practitioner and also know more about the competition, poor remuneration, and struggle for existence than the medical man in a large consulting practice. I feel certain that many reforms must take place before many years. What is the outlook for the general practitioner at present? The profession already much overcrowded, fees small, the number of men qualifying increasing every year, the club or provident dispensary system, members paying 2*s.* 6*d.* per annum for medicine and advice, &c. The numbers can, and I think will, be reduced, and this can be done by raising the standard of the entrance examination and making it competitive, so that only a fixed number of new men are admitted. I am extremely pleased, Sirs, to see you taking this matter up, and I am sure you will by so doing receive the support and thanks of the whole profession.

I am, Sirs, yours faithfully,

M.R.C.S., L.R.C.P.

June 20th, 1896.

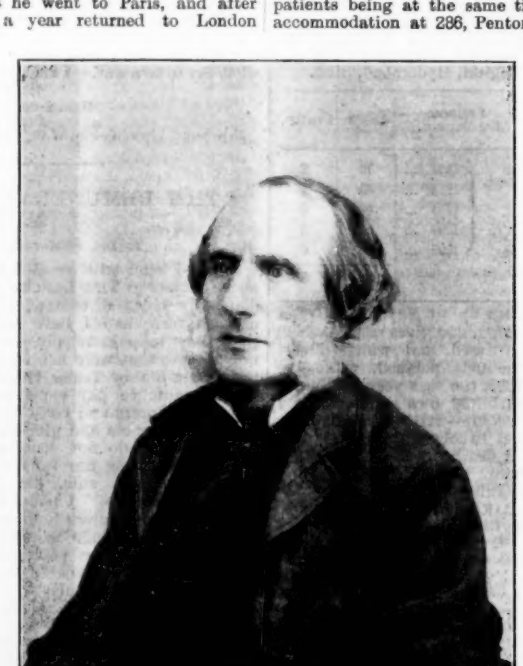
Obituary.

WILLIAM CHOLMELEY, M.D. ST. AND., F.R.C.P. LOND.

ON June 18th the consulting physician of the Great Northern Central Hospital entered into well-earned rest. Dr. Cholmeley was so intimately connected with the Great Northern Hospital from practically its foundation that it seems only right in this notice of his career to make this the most prominent feature.

Dr. Cholmeley was born in 1823 at Waynfleet, Lincolnshire, of which place his father was rector. He received his medical education first of all from a local practitioner, to whom he was apprenticed, and afterwards at St. Bartholomew's Hospital. In 1844 he went to Paris, and after studying there for about a year returned to London and set up as a consulting physician in Russell-square, whence in 1871 he removed to 63, Grosvenor-street. In this year too he married Louisa, the eldest daughter of the late Lieutenant-Colonel H. Ross Gore, C.B., who survives him. From 1873 to 1883 he was editor of the now extinct *Medical Times and Gazette* and was also medical officer of the Eagle Insurance Office from 1871 to 1894. About this latter date his memory began to fail and he had to give up all active work. In this state he remained, with occasional fluctuations for better or worse, until the beginning of 1896, when he began to show signs of a restlessness quite foreign to his nature; and so gradually his strength wore out and he passed quietly away after three days' unconsciousness on June 18th. Of his work at the Great Northern Central Hospital, an institution which for nearly forty years he helped to grow from very humble beginnings to the present magnificently appointed block of buildings, the following extract from an appeal published by the hospital will speak better than any words of ours can do:—

"On June 28th, 1856—the eighteenth anniversary of the Queen's Coronation—Dr. Croft and two surgeons (Mr. Statham and Mr. J. L. Statham) held a preliminary meeting, at which it was resolved to establish an institution to be called 'The Great Northern Hospital.' Four weeks later premises were secured at King's Cross and an honorary secretary was appointed. In September it was decided that a Council should be formed, consisting of medical and lay members, and its first meeting for business was held on Dec. 18th, ten members being present. So widely appreciated were the services rendered, even at this early period, that it was found necessary, in February, 1857, to enlarge the building, and on May 18th following the first medical staff, consisting of two consulting physicians, two physicians, three surgeons, four junior surgeons, one obstetric physician, one ophthalmic and one aural surgeon, and two dentists, was appointed. Up to this time there were no in-patients, but on July 29th two wards were opened, containing ten beds for men and six for women. On June 25th, 1858, Dr. Cholmeley was appointed junior physician and Mr. W. Adams surgeon, and in the following year the former was unanimously elected a member of the Council, an event which had a most important influence in the subsequent history of the hospital. Towards the close of the year 1860 external disturbing influences began to manifest themselves. A notification was received from the Metropolitan Railway Company that it was their intention to apply for an Act of Parliament to enable them to acquire the hospital building for the purpose of railway extension. The negotiations with the railway company occupied more than a year, and at length on Jan. 30th, 1862, the Council was informed that the premises must be given up in twenty-eight days. The enforced search for new premises finally led to a temporary amalgamation, on July 30th, of the Spinal Hospital with the Great Northern, and on Oct. 9th the in-patients were removed to the wards of the Spinal Hospital at 84, Portland-road, the out-patients being at the same time provided with temporary accommodation at 286, Pentonville-road, from which place they were again removed, in February, 1863, to 294, Pentonville-road. This arrangement was found unsuitable and unsatisfactory for the permanent requirements of the hospital, and after a long search and lengthy preliminary negotiations it was decided to purchase Pembroke Villa, Caledonian-road, the in-patients being removed there on Jan. 6th, 1864. In order to secure additional accommodation the adjoining premises were from time to time purchased, and during the next twenty years the work was carried on here under great difficulties. With this history is intimately associated the name of Dr. Cholmeley, who has justly been called the 'Father' of the hospital, and who, during thirty-eight years, unostentatiously but freely gave his services and his means at crises when the committee were face to face with threatening failure. His was the hand ever ready to help when help was most wanted. His *foundling* was often *ailing*, but he relieved its infirmities and restored its vigour. It would be the basest ingratitude to allow these valuable and long-continued services to pass unnoticed among the host of good deeds done in silence which are too soon lost to view in the mists of a fast-retreating past.



WILLIAM CHOLMELEY, M.D. ST. AND., F.R.C.P. LOND.

(From a photograph by Fradelle and Young.)

"In the year 1882 a movement was started to provide additional hospital accommodation in North London, there being then but one hospital bed for each 25,000 of the population. It was at first proposed to erect a new building to be called the 'Central Hospital for North London,' but after various public meetings had been held this scheme was abandoned in favour of one for amalgamating the proposed new hospital with the already existing Great Northern, and thus by one institution to be named the 'Great Northern Central Hospital' to endeavour to meet the lamentable lack of hospital accommodation for the poor of the district. A suitable site was obtained in the Holloway-road and a portion of the hospital erected, consisting of three wards capable of accommodating in all seventy-two in-patients. An out-patient department, by no means the least useful part of a hospital, has also been built."

The following is from the pen of Mr. C. B. Lockwood, one of his colleagues, and well expresses the esteem in which he

was held by those with whom he worked: "Dr. Cholmeley was a senior member of his profession and the senior physician to the Great Northern Central Hospital, when, fifteen years ago, the writer became one of his colleagues. Although so many years have passed, the simple, unaffected kindness and the gentle courtesy of his reception by Dr. Cholmeley have never faded from his memory. A deeper knowledge of Dr. Cholmeley's character increased the respect and regard which were his due. Very patient and forbearing, he either spoke well of others or was silent. The affection of his colleagues was deep and sincere and was the highest tribute to his upright and blameless life. He was the courteous advocate of patience and forbearance and the never-failing peacemaker. In council such qualities as these, being combined with steadfastness and judgment, made his opinion prevail where others would have failed. In his absence many a proposal was deferred or altered lest it should cause him a moment's pain or regret. Goodness and amiability are at times synonymous with weakness, but this was not so with Dr. Cholmeley. He was accustomed when he disagreed to form an independent opinion supported by well-chosen and temperate arguments and with knowledge and experience gathered in the course of a long and laborious lifetime. Moreover, any argument he advanced carried additional weight because none ever dreamt of questioning his absolute sincerity and truthfulness. It was fully recognised that all he did or thought was prompted by devotion to the hospital which he loved so well, and for which he had done so much, and by the most honourable and loyal feeling towards his colleagues. He possessed, too, a quiet dignity of manner which at once commanded respect. But this carried with it no feeling of constraint, for his eyes shone with a most kindly light, and a very pleasant smile flickered around his lips to tell the least observant that he was humane and sympathetic. His memory will long dwell in the minds of his colleagues and be for them a standard of upright and honourable conduct, and an example of all the virtues which made a good colleague and a sincere friend."

These words are a heartfelt and eloquent estimate of one who was always in the old and fullest sense of the word a gentleman. One other point we may mention and that is the endowment of a bed upon July 15th, 1895, in Dr. Cholmeley's honour by the Ladies' Association of the hospital. Over the bed was placed the following inscription: "The Cholmeley Bed, endowed, through the Ladies' Association, in loving appreciation of many years' devoted and unselfish labour rendered by Dr. Cholmeley to the sick and suffering both as physician to the hospital (of which he was one of the founders) and as honorary treasurer to the Ladies' Association."

The funeral took place upon June 23rd, at St. John's, Ladbroke Grove, and besides various members of the family there were present: Dr. Beevor, Dr. Clifford Beale, Dr. Blandford, Dr. Burnett, Dr. Cook, Dr. Maurice Davies, Dr. Morison, Dr. Ogle, Dr. Symes Thompson, Mr. Peyton Beale, Mr. John Gay, Mr. J. H. Macready, Mr. E. C. Hulme, Mr. W. R. Stewart, Mr. Glenton Kerr, secretary of the Great Northern Hospital, and a large number of patients both well-to-do and poor. So passes one who was gentle, honourable and upright, who spared neither time, money, nor labour in the service of his fellow men. Unobtrusive and modest in all that he did, his memory will ever be kept green by the abiding presence of that house established for the relief of pain and sickness, the Great Northern Hospital.

SAMUEL HOLDSWORTH, M.D. PISA, M.R.C.P. LOND., M.R.C.S. ENG., L.S.A., J.P.

DR. HOLDSWORTH of Wakefield, who died on June 13th at his residence in that city, occupied a prominent position in the West Riding of Yorkshire as a philanthropist and public man. His medical career commenced more than sixty years ago, when he became pupil to the late Dr. Bennett of Wakefield, and he subsequently studied at Guy's and St. Thomas's Hospitals and in Edinburgh and Paris. In 1835 he became qualified as M.R.C.S. Eng. and L.S.A., and in 1839 he graduated as M.D. at Pisa; in 1859 he became a Member of the Royal College of Physicians of London. Dr. Holdsworth was engaged in active practice for only about five or six years, but he was for about thirty-eight years honorary physician to the Clayton Hospital at Wakefield, and he devoted himself assiduously to public duties of many kinds. In 1862 he was elected to the Wakefield town council, and he was three times mayor—in 1862, 1863, and 1868. He was also a Justice of the Peace for Wakefield and for the West Riding, a member of the West Riding county council, and steward of the West Riding Medical Charitable Society. Dr. Holdsworth was an enthusiastic advocate of temperance principles; he was eighty-two years of age, and leaves a widow and family, by whom, as well as by a large circle of friends, he will long be held in affectionate remembrance.

THE BATTLE OF THE CLUBS.—XXXIV.[1]

(FROM OUR SPECIAL COMMISSIONER.)

(*Continued from p. 1756.*)

LEEDS: CLUB PATIENTS AT THE INFIRMARY.—FAILURE OF FORMER EFFORTS TO CONTROL CLUB WORK.—MALINGERING.—METHODS OF COMPETITION.—"SIXPENNY AND SHILLING DOCTORS."—"ONE MARK" VACCINATION.

THE position of affairs at Leeds is scarcely better than at Derby, with this difference, however, that most of the medical men with whom I discussed the matter were more anxious to take action, though none had ventured to move in the matter. The Leeds and West Riding Medico-Chirurgical Society might take the initiative. It is composed of three honorary life members, 104 Leeds members, 191 county members, and eight honorary annual members. There are consequently 306 members in all, and the society has a small balance in hand. This would more than suffice to convoke a general meeting of the whole profession for the purpose of founding a union to deal exclusively with economical and ethical questions. Such an effort is very necessary, for the profession has fallen to a low ebb at Leeds. The medical men undersell each other just as if they were rival tradesmen, losing the sense of professional dignity in the ardour of the struggle. Some will take club patients at almost any price and make it pay by employing unqualified assistants to do the work. Then when they have any really troublesome patient they send him to the hospital. The situation is somewhat complicated by the great popularity and high reputation of the Leeds Infirmary. A number of workmen, though they are members of benefit societies or clubs, prefer going to the infirmary, and thus do not call in their club medical officer. They even ask at the infirmary for medical certificates so that they claim the sick allowance from their clubs. This is evidently an abuse of the hospital, since these men have paid for medical attendance by subscribing to a benefit society or to a medical aid association. But it has been

[1] The previous articles on this subject were published in THE LANCET on the following dates: (1) Aug. 24th, 1895, Brussels; (2) Aug. 31st, 1895, Brussels; (3) Sept. 21st, 1895, Portsmouth; (4) Sept. 28th, 1895, Portsmouth; (5) Oct. 5th, 1895, Eastbourne; (6) Oct. 12th, 1895, Lincoln; (7) Oct. 26th, 1895, Lincoln; (8) Nov. 2nd, 1895, Grimsby; (9) Nov. 9th, 1895, Bexhill-on-Sea; (10) Nov. 16th, 1895, Hull; (11) Nov. 23rd, 1895, Hull; (12) Dec. 7th, 1895, York; (13) Dec. 14th, 1895, Northampton; (14) Dec. 21st, 1895, Fermanagh Medico-Ethical Association; (15) Dec. 28th, 1895, Northampton; (16) Jan. 4th, 1896, Birmingham; (17) Jan. 18th, 1896, Birmingham; (18) Jan. 25th, 1896, Club Practices in Rural and Mining Districts; (19) Feb. 1st, 1896, The Formation of a Provident Medical Association at Folkestone; (20) Feb. 8th, 1896, The Manchester Medical Guild and Medical Aid Associations; (21) Feb. 15th, 1896, The Leicester and Leicestershire Provident Dispensary; (22) Feb. 22nd, 1896, The Organisation of the Profession at Leicester; (23) March 7th, 1896, Loughborough: Local Efforts defeated by Consultants from Neighbouring Towns; (24) March 14th, 1896, Medical Aid Societies in Small Heath; Medical Clubs at Stockport; (25) March 21st, 1896, General Meeting of the Profession and the Formation of a Union at Nottingham; (26) April 4th, 1896, Nottingham; the London and Manchester Industrial Assurance Company, Limited; the Public-house Medical Aid Clubs; United Action at Lincoln; (27) April 11th, 1896, Leicester and Wolverhampton; a Hastings Dispensary wound up; (28) April 25th, 1896, Walsall, Formation of a Medical Union; the Medical Profession and the Friendly Societies; Trade and Medicine; the Family Clubs; Women's Public-house Clubs; (29) May 9th, 1896, Sheffield: An Ancient Medical Society; Workmen Sweaters; The Old Grievances; Probable Formation of a Medical Union; (30) May 16th, 1896, Lincoln: Medical Protection Fund started; Benefit Societies and Medical Men; Medical Union at Nottingham; (31) May 30th, 1896, Derby: The Abortive Movement of 1872; the Apathy of the Profession; Female Canvassers; the Gainsborough Dispensary; Lincoln Medical Protection Fund; "A Doctors' Strike"; (32) June 13th, 1896, The Bitter Cry of the Medical Aid Associations; letter from a Member of the Manchester Executive; Lincoln: the Provident Medical Association; Lincoln Medical Protection Fund; Fifeshire Medical Association and Medical Aid Appointments; (33) June 20th, 1896, the General Medical Council and the Medical Aid Associations.

calculated that the cost of out-patients at the infirmary does not exceed an average of 1*s.* 3½*d.* per patient. It would be more trouble to eliminate these cases than to treat them. The economy on 1000 cases would amount to about £65. As the working classes subscribe liberally to the infirmary it would not be worth while for this institution to render itself unpopular for the sake of effecting so small a saving. Nor would the economy cover the cost in time and trouble of carrying out such a reform. On the other hand, this simply means that a great deal of the club practice has to be supplemented by the better and gratuitous care bestowed on the out-patients at the infirmary. Surely this state of things is sufficient to show how urgent is the necessity of a general reform in the whole system of contract work and club practice.

A great deal was said during my various interviews with medical men doing a large club practice about young medical men newly arrived in the town. The position of the latter is often so desperate that they gladly accept club members for 2*s.* 6*d.* a year, for whom the elder practitioners have been in the habit of receiving 4*s.* Sometimes a father wishes to resign his club practice in favour of a son. The club shows its gratitude to their old medical man by accepting the services of his son, but profits by the opportunity to enforce a very much reduced rate of payment. Twenty-five years ago the clubs only paid 2*s.* 6*d.* The medical men then held several meetings and agreed not to accept less than 4*s.* for new societies or when a new medical man was appointed to an old society. In a word, the resolution was not to have a retrospective action; existing agreements were not to be altered. It was, therefore, but a partial reform. For some years this principle was maintained, but in the course of time new men arrived who knew nothing about it and accepted less. Thus it is evident that something more than a temporary union is required. It is not only necessary to unite and establish a rule, but there must be a permanent executive or vigilant committee to see that the whole of the profession is kept well informed as to the conditions established in the district. The moment a new practitioner appears a deputation should wait upon him, explain what are the conditions established, invite him to conform with these rules and join the union. All new arrivals should also be warned as to the consequences that will ensue if he should elect to set himself in opposition to the decisions of the profession and seek to compete unfairly against his colleagues.

Many complaints were made to me of the manner in which club medical officers were made to appear before their committees to answer trivial and unjustifiable charges. Some committees take a special delight in "badgering" their medical man, and complaints are frequent when a medical officer does not readily lend himself to malingering. One amusing case was described to me where, however, the medical man got the better of the patient. A man was constantly claiming his sick allowance on the ground that he was so crippled by rheumatism that he could not work. The way he entered the surgery was a masterpiece of good acting. It was astonishing how a man in such evident pain had been able to come out at all. Knowing the direction which the patient was likely to take on leaving the surgery, the medical man, seizing his hat, went down some by-streets and came upon him at a little distance. He already seemed to be much better and walked with less difficulty. Concealing himself, the medical man followed till the patient was still further away and in a part of the town where he was not known. Here the patient began to walk along with an easy elastic step, smoking a cigar and thoroughly enjoying himself. A few days later the same man appeared at the surgery complaining that he was no better and could hardly crawl along. The medical man with grave face examined him carefully, said it was very serious, ordered him home and to bed, promising to call upon him shortly. Much to his annoyance the malingerer went to bed and managed to present a pitiable aspect when the medical man called. The officer on his side professed to be much alarmed at the serious aspect of the case and forthwith proceeded to apply the actual cautery. The patient, of course, howled lugubriously. He was caught in his own trap and now really suffered where he had only pretended. He ominously never returned to consult the club medical officer, but at the earliest opportunity joined another club. When questioned as to the cause of this defection the medical officer told the whole story, with the result that the other club was warned as to the character of the new member they had acquired. The malingerer was not a little disconcerted when, on consulting his new club medical officer, the latter smilingly suggested the actual cautery as the most effective remedy. It is needless to add that for this one malingerer who was skilfully detected and punished there are many who succeed in fully deceiving their medical officer and are thus able to defraud their club by obtaining sick pay when they are more idle than ill.

In one district of Leeds there were four medical men who did nearly the whole of the club practice for that neighbourhood. These four medical men met and agreed that under no circumstances would they accept less than 4*s.* per annum, and they adhered to this compact. But one of these four medical men brought his two sons into the district. They opened surgeries, one at one end and the other at the other end of this quarter of the town. They, of course, were not pledged to the 4*s.* minimum and by accepting less obtained a great number of the patients whom the old-established practitioners had been in the habit of attending. Here were four medical men. If they had all belonged to a union then there would have been protests, not from three medical men, but from about 300 medical men and with a well-organised union every medical man in the town and neighbourhood would have known immediately what had occurred.

At Leeds, as elsewhere, there are great complaints about the juveniles. Many societies paying 4*s.* a year for adults form lodges of juveniles at 2*s.* a year. The feeling is that as juveniles give more trouble the sum paid should be at least as much as that given for the adults. While, however, some medical men have resigned their position, giving up the adults at 4*s.* so as not to be encumbered with the juveniles at 2*s.*, other medical men have accepted adults and juveniles together at 2*s.* 6*d.* each. Here, again, we find an illustration of the evil effects of competition unrestrained by such professional regulations that a union could establish. There is also a grievance against the London and Manchester Assurance Company. It is said to place its subscribers on the lists of its medical officers without any medical examination; thus many unhealthy persons are insured and have to be attended constantly, though they only pay 4*s.* a year. If a child is assured it is generally an ailing child. One medical officer related to me that when he first came to Leeds he joined the London and Manchester Assurance Company thinking that it was a charity, but he soon found that the canvassers of this company called on his patients and persuaded them to insure their lives, by which means they would secure the services of the same medical man and have to pay only 1*d.* a week. Then he discovered that a number of well-to-do people belonged to the company and expected to receive medical attendance for 4*s.* a year. Some of these wealthy people had sufficient sense of shame to assume false names. On other occasions persons who were subscribers to the assurance company came from another district. The medical officer is apt to mistake these new arrivals for private patients. My informant had attended one such patient for a year. He seemed to be in affluent circumstances, so the medical officer sent in a bill for £22; he received just 4s. The affluent patient was a subscriber to the London and Manchester Assurance Company, but had forgotten to mention the circumstance when sending for the medical officer of the company. Many publicans and other tradesmen who enjoy incomes of from £300 to £400 a year were on the list of this medical officer's club or insurance company patients, and only paid him 4*s.* a year for medical attendance and medicine. Some of these club patients are more difficult to please and more exacting than private patients who pay full fees. But it is not only club practice that reduces the earnings of medical men; there are a great number of "sixpenny doctors" and "shilling doctors" at Leeds, some of whom even offer to vaccinate for 6*d.* and 1*s.*, but many of whom are said to make only one mark. This has the double advantage of economising the calf lymph and reducing the trouble which the child gives to the parents. The parents thus economise in money and in the worry that a child suffering with several pustules occasions. People do not realise the risk that they run. In this respect it is only necessary, for instance, to recall the statistical evidence given by Mr. Marson on 6000 post-vaccinated small-pox cases. He found that among the cases in which one cicatrix was well marked the death-rate was equal to 4·5 per cent., and among the badly marked 12 per cent. On the other hand,

among those who had four or more vaccine cicatrices the death-rate was less than 1 per cent.; the death-rate among the unvaccinated was 35·5 per cent. Leeds used to be a well-vaccinated town; now it will soon become a badly vaccinated town. Yet what can be done? So long as the medical man says he has vaccinated the child the law is satisfied, and the less effective the vaccination the greater the satisfaction of ignorant parents. This is a serious question and may bring about a recrudescence of small-pox. Yet who is to act in the matter? The consulting physicians do not suffer from this state of affairs; on the contrary, they are constantly employed by the "sixpenny doctors" and "shilling doctors." A strong consensus of opinion must be brought to bear on both extremes of the social scale. There is the struggling practitioner very low down in the scale who, in the ardour of the competition for existence, loses the sense of professional dignity; and there is the very successful consulting physician, who is so prosperous that he is not affected by, and ignores the troubles of, his less fortunate colleagues. Both the one and the other, those who are at the very top of the ladder and those who are at the bottom of the ladder, have to be exhorted to a better sense of the duty they owe to the profession as a whole.

WEST WILTSHIRE AND SURROUNDING DISTRICTS.

We are pleased to see that organisation and a determination to stand together for their rights are spreading among medical men, as the following instances show, although we regret that in the latter of the two cases the medical men were not perfectly unanimous.

In November last one of the principal benefit societies in the neighbourhood of Freshford proposed a change in its rules under which the medical officers would have been called upon to attend children from one year of age upwards and old people after they had been forced to leave the society for all other purposes but medical aid. In consequence all the medical officers met together and decided to object to these alterations, and the result was that the society withdrew the proposals. In February, 1896, a meeting was called of all the medical men in West Wiltshire and adjoining places, sixty in all, to arrange a conference with the various societies in the district, with a view to obtaining a wage or rental limit. The action of the profession was very much hampered by the refusal of two old-established practitioners to act with their colleagues, as their abstention was well known to those delegates attending the meeting. The conference was held upon May 2nd at Trowbridge. Mr. Charles Flemming said (we take the report of his speech from the *Wiltshire Times*): "The abuse of which they complained was this, that certain persons obtained medical benefits of the friendly societies who did not need them, such persons including tradesmen, retired tradesmen, persons of independent means, and others whose incomes were such that they could well afford to pay a medical man his ordinary charges for attendance. They were thus abusing societies which were originated and had been maintained for the use and benefit of *bonâ-fide* working men and poor persons. The abuse was not so extensive in this part of the country as it was in some parts, but they were going on the principle that a stitch in time saved nine. In addition to being an injury to their societies it was also an injury to the profession, because a medical man could not possibly live by club practice alone; he must have a certain amount of private practice. Then if he depended on private patients as well as club practice, and if his private patients became club patients, he could not continue to practise his profession properly. When a medical man found that his private patients were becoming club patients it was only natural that he should complain, but no medical man had any objection to attend a *bonâ-fide* working man as a club patient. Medical men had to live, and if they were forced to enter into contracts with clubs they might be sure they would endeavour to make those contracts pay if they possibly could. If they had nothing but clubs they must have a very large number to make them pay, and they would thus have to see an enormous number of patients in a day. He did not care whether a man was paid four shillings a year by his patients or whether he was paid a guinea a visit, if he had to attend beyond a certain number of patients in a certain time he could not do it properly; he could not give that careful consideration and that quiet, deliberate examination which were absolutely essential for the proper conduct of medical practice. In medicine, as in other things, if made a business, to put it plainly, especially in practice such as clubs, they might be sure they would get only what they paid for; the value of what they got in the long run would be only the equivalent of the price. They might sweat medical men—as they were sweated in some towns—and they might work them until they became mere machines—machines in which they put a penny in the slot and drew out a bottle of medicine, but they would not get skilled medical attendance and advice. If the abuse which now existed was allowed to go on it would become so extensive that it would disaffect the whole medical profession, and they would lose the men they most wanted and undermine those beneficent institutions which were supported and had been maintained and were maintained for the benefit of the poor working man, and all alike would suffer, whether they were innocent or guilty." Other medical men and a number of representatives of societies spoke, nearly all of whom agreed that the medical men had a grievance which ought to be remedied, only they did not quite see how it was going to be done. Finally the following resolution was unanimously agreed to: "That this meeting takes note of the resolution which has been made by the medical men present at this meeting, that £2 a week wages and £15 a year ratable value be adopted as a limit to prevent persons obtaining medical aid by their friendly societies, who by their position do not require it, and that it be recommended by this meeting to the various friendly societies to consider whether any, and if so what, limit can in future be imposed on the membership of friendly societies so as to accomplish this object." We are glad to see that the tone and temper of the meeting were apparently excellent, and we congratulate Mr. Flemming, who called the meeting together, on the measure of the success he has attained.

LINCOLN MEDICAL PROTECTION FUND.

The following is a list of subscriptions to this fund which have been received in addition to those already announced. We notice the growth of the fund with pleasure:—

	£	s.	d.
C. J. B. Johnson, King's Heath, Birmingham	0	5	0
H. B. Walker, Lowestoft	1	1	0
J. E. Molson, Chelmsford	1	1	0
Philip Wilmot, King's Lynn	0	15	0
Jno. Brown, Bacup	0	5	0
Wm. Easby, Peterborough (per month)	0	5	0
Midland Branch, British Medical Association	25	0	0
B. W. Housman, Stockport	1	1	0
W. Macfie Campbell, Liverpool	0	10	6
Alfred Godson, Cheadle	0	10	0
B. Jones, Leigh	0	5	0
H. Shillito, Birmingham	0	5	0
E. F. Bindloss, Melbourn, Royston	0	10	6
J. C. Ellis, Metheringham	0	10	6
D. E. Thomas, Newport, Mon.	0	10	0
B. J. Massiah, Didsbury	0	10	6
A. C. Wilson, Formby, Manchester	2	2	0
C. Macfie, Bolton	0	10	6
G. C. Franklin, Leicester	0	10	6
M. Johnston, Bewdley	0	10	6
P. E. Miall, Bradford	0	10	6
F. Pearse, Southsea	1	1	0
D. H. Kyle, St. Andrews	1	1	0
J. Robinson, Bolton	0	10	6
A. E. Boulton, Horncastle	2	2	0
T. P. Gostling, Worcester	0	10	6
Alf. Freer, Stourbridge	0	10	6
President, Birkenhead Medical Society	2	0	0
F. H. Alderson, Hammersmith	1	1	0
F. H. Alderson, jun., West Kensington	0	10	6
W. H. D. Mence, St. Ives	0	5	0
S. F. Mawson, Bolton	0	5	0
T. C. Askin, Woodbridge, Suffolk	0	10	6
J. C. Worthington, South Lowestoft	3	3	0
W. R. Buckell, Cheltenham	2	2	0
H. Malet, Wolverhampton	0	10	6
H. Sankey, Littlemore Asylum	1	1	0
J. Stewart, Clifton	1	1	0
T. H. Cheatle, Burford, Oxon	0	10	6
D. Iles, Gloucester	0	10	6
Previous list	£209	16	s.

THE ASHANTI EXPEDITION.

(BY OUR SPECIAL WAR CORRESPONDENT.)

VI.[1]

AFRICAN REMITTENT FEVER AND ITS SEQUELÆ.

[THE delay in the publication of this last article has been due to the fact that our correspondent has been suffering from the effects of the malaria of which he gives so graphic an account.]

Having already given a history of the African remittent fever, before leaving that subject perhaps it would be as well if I said a few words respecting its sequelæ—as experienced by a great number of those who have apparently

[1] Nos. I., II., III., IV., and V. were published in THE LANCET of April 4th, 11th, and 25th, and May 2nd and 16th, 1896, respectively.

recovered from the fever proper to be only again laid low by another complaint that usually succeeds or follows in its wake. First of all there is colic. This complaint is very common amongst those who have suffered from fever, and I question very much if any convalescents from remittent fever of the African type will escape being attacked by colic afterwards unless the greatest care and caution be used. The slightest indiscretion in diet will at once produce it. A change of temperature often, too, brings on colicky symptoms, and so sensible are these patients' bowels of impressions made on the skin that the tenderness would indicate the presence of chronic inflammation or even ulceration of membrane. Diarrhœa is often experienced after fever has entirely passed off; but of all complaints dysentery is the one that has carried off most patients. Dysentery may be an immediate sequence of the fever or it may come on months after the fever has passed away. Hepatic disease not infrequently occurs. Post-mortem examinations have not often been made, but when they have been undertaken have generally shown that the peritoneum and its attachments as well as the intestinal tube exhibited a general yellow tinge, the stomach containing from four to five ounces of a yellowish-green fluid. The mucous coat was invariably softened whether fluid were present or not. Livid patches were also observed distributed over the inner surface of the stomach. These pathological appearances were chiefly in evidence near the pylorus. Lesions were also observed in the duodenum, becoming less evident towards the jejunum. The gall-bladder was in most cases distended with bile of the consistence and colour of tar.

THE HOSPITALS EN ROUTE.

Of these there were several—in fact, one at each rest camp; but the principal or larger erections were at Kwissa, Prahsu, Assin-Yankumasi, Mansu, and Cape Coast Castle. Kwissa hospital was a commodious building constructed of bamboo and thatched with leaves of that plant. It occupied a good, healthy position. There was an excellent supply of wholesome water. The rooms were both lofty and well ventilated, and the latrines, placed at a convenient distance in the rear of the building, were always kept clean and well supplied with disinfectants.

PRAHSU HOSPITAL.

When I first arrived at this place I found a building had already been put up by the colonial authorities, constructed, as they usually are, of cut bamboos. It was about seventy feet by thirty feet and situated at the entrance or south-eastern extremity of the camp, surrounded by dirty, foul-smelling native huts, and not too far removed from some swampy ground. However, this latter could scarcely be avoided considering Prahsu surroundings generally; but the native abominations, with the pigs and fowls and dirty, foul-smelling heaps, might certainly have been done away with before the officials commenced to erect a hospital for the reception of the wounded and the sick. These precautions were not taken, and only on the arrival of our own medical officers, notably Surgeon-Lieutenant-Colonel Blennerhassett and his staff of surgeons and orderlies, were the native huts demolished and the refuse heaps and other pestiferous abominations swept off the surface of the ground. Further than this, the native hospital was soon condemned and a newer and much more suitable one erected in its stead. On my return from the other side of the Prah I was astonished to see what an amount of sanitary improvements had been carried out by Surgeon-Lieutenant-Colonel Blennerhassett, and how painstaking he had been in improving the general surroundings of this swampy place. Not only were the patients well supplied with fresh bread and excellent sweetened and unsweetened milk, but by an admirable arrangement ice manufactured at

FIG. 1.

Entry of the troops into Kumasi.

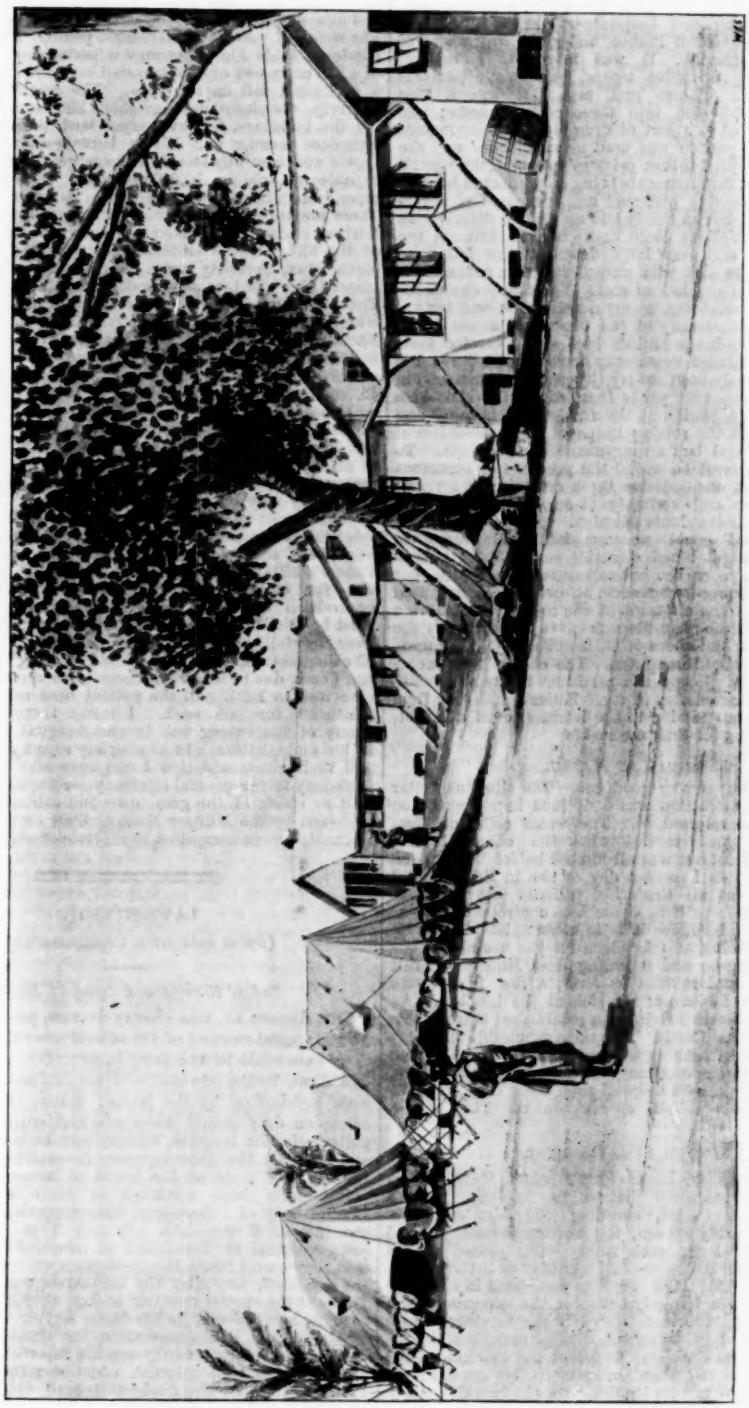


FIG. 2.

The Base Hospital on Connor's Hill, Cape Coast Castle.

Cape Coast Castle was brought up twice a week or oftener to Prahsu.

HOSPITAL AT ASSIN-YANKUMASI.

On my journey up this hospital was in an incomplete state; erected, like that of Prahsu, under the supervision of the colonial authorities, it was intended, I believe, only for the use of native troops, but was afterwards used by our own officers and men. It was a long bamboo erection divided into three compartments; one of these was devoted to a sort of drug store and serving-out room, the central portion was used as an officers' and the remaining part devoted to sick privates' quarters, the separation betwixt these compartments being only effected by split bamboos. The covering overhead was composed of layers of bamboo leaves, but so thinly laid on and so defective in some parts that daylight could easily be seen through the roof, whilst rain and even large drops of dew fell upon the blankets of the sick who were destined to pass a night under such a defective kind of roof. The *locale* chosen for the hospital was, moreover, a very questionable one from a sanitary standpoint—nearly at the bottom of a small hill on the top of which the natives had wisely erected their own huts. All drainage necessarily flowed to this part; the bush having recently been cut lay (by pace measurement) in festering heaps just nine yards from where the sick were supposed to lie. A latrine at the rear of the hospital and abutting closely on the rotting heaps of vegetable material added to the general bad arrangements of this place. To these discomforts must be added the presence of numerous black ants, and on one occasion these creatures in myriads stormed the place and veritably (I am not exaggerating) drove patients and attendants out of it.

Assin-Yankumasi could accommodate 500 troops in barracks, with hospital beds for the same (about twenty cases). They had some ten or twelve stretchers for use, but had no bed-pan or proper commode, an old oil tin being used for that purpose. The elevation of the roof of the building is fairly lofty, but too much slope is given, consequently the sides are very low and there is an insufficiency of windows and ventilating spaces throughout. The officers' apartments were both dark and gloomy, the partitions before referred to preventing a free circulation of air. Patients suffering from diarrhœa had to go outside to the latrines, even at night, there being nothing for their use inside.

HOSPITAL AT MANSU.

This hospital was a very good one. The site was better chosen and its construction was a decided improvement on that I have just referred to. The water collected from the river gave good results with the chemical tests employed, but, of course, was all filtered before being given to the patients. As I spent a day or two in this hospital I can only say, as all the other patients told me, that every attention was paid by those who controlled affairs at this rest station. I believe it is in contemplation to erect a permanent building at this place for the use of officials and Haussas going to and returning from Kumasi. Fruit was procurable and mutton as well; a few fowls were obtained here for the use of the sick at the hospital. An excellent hospital train service was established betwixt this place and Cape Coast Castle. The same admirable transport for sick or wounded was subsequently extended to Prahsu, and latterly to even more remote stations beyond the river, the bearer company, with hospital cots, being in charge of a Medical Staff Corps official up and down. This was a regularly timed service.

CONNOR'S HILL HOSPITAL.

After leaving Mansu, bound for the coast, there was no hospital of importance till that at the base on Connor's Hill, Cape Coast Castle, certainly the best *en route*. Its site was admirably chosen, the wooden houses, hospital tents, wards, and large water-tanks being placed on the summit of Connor's Hill, some half a mile or so to the N.N.E. of the town. (Fig. 2.) The erections have been in existence some years and were formerly built for the accommodation of coloured troops, and when they left the tenements were utilised as a sort of public school, it being considered by the teaching authorities expedient to afford the children a good healthy walk both night and morning before commencing and on ending their various studies. On the breaking out of the recent campaign the colonial authorities, being possessed already of an excellent stone-built native hospital in the town, offered these habitations to the military authorities, who very wisely accepted the offer, and under medical direction have turned these quondam barracks and class-rooms into what they are at present, the wards, dwellings, and offices of a very good military hospital for white troops. The series of wooden-built houses, painted white with glass windows, (vide Fig. 2) occupy a position on the very top of a hill composed of disintegrated lava and gneiss soil, with a graduated fall on all sides. The prevailing winds are westerly, the elevation being about 200 feet above sea level. All the buildings, &c., are stayed with bamboos in case of tornadoes coming on. Water here is obtained from the Castle and carefully stored in large galvanised metal tanks capable of holding 10,000 gallons. On all sides aloes, pines, and oleander trees are seen growing to perfection. There are three separate, well-built, very carefully cleaned latrines situated just under the brow on the leeward side of the hill. These latrines were regularly filled in with earth when necessity arose for their abandonment. The officers' sick quarters were models of comfort and neatness. The rooms, as shown on the right side of the illustration, were about 20 ft. long and 15 ft. wide, floored with wood. Each room possesses a nice iron bedstead with excellent bedding and protected by mosquito curtains. From the windows can be obtained a charming view of the sea. In each apartment there are a table, two easy-chairs, and chest of drawers. Just off the room is the bath place as well as an earth-closet. I should also say there are fireplaces in each apartment. The ventilation throughout is all that could be desired; the temperature of the rooms during the heat of the day seldom exceeded 88° F. during my stay on Connor's-hill. The men's wards were, of course, much longer and slightly wider, and offered splendid accommodation for the sick and wounded. They were kept scrupulously clean by the hospital attendants. Connor's-hill Hospital is equipped for 75 beds, including five for officers. To Surgeon-Major Wilson's careful supervision the excellent arrangements at this hospital must be attributed. The admissions up to Jan. 28th, 1896, were as follows: 130 white troops, 12 white officers, 89 coloured troops, and no coloured officers. There had been one death due to remittent fever. The temperature in this case rose to 109·2° and the patient died after being under treatment for one week. I learnt that the late Prince Henry of Battenberg was in this hospital two days prior to his embarkation. In closing my report on the hospitals and their accommodation I can only add my very humble testimony to the general efficiency observable throughout, as well as speak of the great care and attention I have seen bestowed by the Military Medical Staff on all who have unfortunately been compelled to solicit its assistance.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Ladies' Charity and Lying-in Hospital.

THE dispute at this charity is now practically settled. At the special meeting of the subscribers held to-day alterations were made in the laws in accordance with the terms laid down by the late staff and the profession. Two points were insisted on by the latter: firstly, that the medical officer on duty should have sole and entire charge of all patients in the hospital, without any ambiguity whatever; and, secondly, that three representatives of the medical board should have seats on the board of management. These points have been conceded in their entirety by the general body of subscribers, thus rendering the victory of the late staff complete. It had been rumoured that some members of the board of management had stated that they would resist the re-election of some members of the late staff, but after the intimation from Mr. Mitchell Banks at the special meeting to-day, that if that were the case the hospital will be left for a further indefinite period without a staff, it became certain that the board of management would not care to try another fall with the profession. The late staff have all been asked to resume their offices. It is a pity that the decision arrived at to-day was not attained months since, whereby would have been avoided all the unpleasant issues which have had the effect not only of impairing the good name but also the usefulness of

the charity. Not only have the admissions to the hospital been reduced in number owing to the non-existence of a medical staff, but also the classes of instruction to the candidates for the post of midwife have had to be suspended, which has proved a great hardship to them. They have to thank the board of management for the position in which they now find themselves, as the fault has certainly not rested with the members of the late staff. The medical profession here are to be congratulated on the firm attitude they have all along maintained in so loyally supporting the late staff in their uphill fight with this autocratic board of management.

Supply of Hot Water in Public Streets.

The Watch Committee have granted permission to the Hot-water Supply Syndicate of London to construct experimentally three columns, connected with the gas lamps in the streets, by means of which it is proposed to supply the public with hot water on the penny-in-the-slot principle. The syndicate have a patent contrivance for utilising the waste heat from the gas of public lamps for the purpose of instantaneously heating water. During the hours of street lighting water is heated by means of a coil of metal pipe with the flame of the gas. An annular tank is also fixed above the flame and provides a store of warm water ready to be transferred through the hot coil. In the day time, when the street lamps are not lighted, only a small flash light is continuously maintained in the lamp. It is proposed to supply the hot water at a halfpenny per gallon, and when the coin is put into the slot in the daytime the flash light is turned on at full force for a sufficiently long period to heat one gallon of water, which is discharged from a cock at the base of the column. The water can be instantaneously heated in these columns up to 194°, which is hot enough for all domestic purposes other than making tea and such like. If the water could be delivered at the boiling heat it would prove a boon to those desirous of making tea or coffee when the domestic fires were allowed to go out in hot weather.

New School of Pharmacy.

A school of pharmacy has now been added to the other departments of University College. From the names of the college professors and other lecturers appearing on its prospectus there is every prospect of it proving a success. Instruction will be given adapted to the requirements of candidates preparing for the minor and major examinations of the Pharmaceutical Society of Great Britain. A student before entering the classes must have passed the first examination of the Pharmaceutical Society, or an examination accepted in lieu of the same by the society. During the academic year (October to July) there will be a junior and a senior course of instruction in each subject of the curriculum. The first or junior courses include the subject-matter of the schedule for the minor or qualifying examination. A student who enters the school in October may present himself for the minor examination in April. The second or senior courses include the subject matter of the schedule for the Major Examination of the Pharmaceutical Society. A student who enters the school in October and passes the minor examination in April may pass the major examination in July. All students are strongly advised to enter the school at the beginning of the winter session in October. All registered students are allowed to use the College library and reading-room. There are also well-equipped museums of chemistry, botany, and materia medica, which contain a fine herbarium and a collection of drugs from the Pharmaceutical Society. Students are enrolled by the Dean of the Medical Faculty, University College, Liverpool.

June 23rd.

WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The First Hospital Saturday in Bristol.

BRISTOL Hospital Saturday was inaugurated on June 13th, although there is no doubt that for the future it will be an annual event. Everything fortunately contributed to its success. The weather was fine all day. The arrangements for the street collections were excellent. Stations were selected all over the city for placing a chair and a table at which a lady should sit, and offers were made of the use of rooms and offices had the weather been unfavourable. The house-to-house collections by the ladies' auxiliary amounted to over £400 and the street collections have up to the present totalled £460, but a few other boxes have yet to be returned. As the honorary secretary of this fund has recently stated it is useless to compare the Bristol Hospital Saturday with that at London or Birmingham, for at these two places the employers of manufacturing industries, &c., make collections from week to week all the year round for the Hospital Saturday Fund, and the sum obtained is thrown into the street collections on the day that may be appointed for Hospital Saturday. In Bristol this is not done, so comparisons cannot be made. The Bristol factories make collections during the year and forward the sum to the institutions. In 1895 the working men of Bristol contributed £4000 to the medical charities of that city.

The Recent Outbreak of Small-pox in Glamorganshire.

Dr. Williams, the medical officer of health for Glamorganshire, reports that 160 cases of small-pox have occurred in Glamorganshire during the current year, but at present the disease is on the wane. He adds that in districts which had provided isolation accommodation the disease did not spread to any extent. At Bridgend no accommodation whatever had been provided by the sanitary authority, with the consequence that 18 cases occurred. The expense accruing to the Bridgend authority by the prevalence of small-pox in their district would have been sufficient to defray the cost of providing the permanent isolation hospital which is about to be erected by order of the county council. Dr. Williams, in concluding his report, says that isolation and re-vaccination were rigidly exercised wherever possible, but that the threatened prevalence of small-pox in the county, which was the means of providing two additional small-pox hospitals, clearly proved that it is safer and far more economical to have every means and appliances always in readiness.

Crime in Gloucestershire in 1895—a Decrease.

At a meeting of the Gloucestershire Joint Committee to be held at Gloucester on June 23rd, the Chief Constable (Admiral Christian) will furnish a return as to the crime in the county during 1895. Under the head of indictable offences the crimes reported to the police numbered 629, a decrease of 116 as compared with the return for the preceding year. The number of persons apprehended and summoned for these offences was 597 (a decrease of 186); and of these 159 were tried summarily and discharged, 264 were convicted, 86 were committed for trial and sent to prison, 23 were bailed for trial, and 65 were otherwise disposed of. For non-indictable offences, 1253 persons were apprehended, and 5038 summoned, a decrease of 18 compared with 1894. The increase in the number of cases of drunkenness was 13.

A Curious Vaccination Case from Gloucester.

On June 13th at Gloucester Mrs. J. Bryant of Tuffley Court, was summoned for neglecting to have three children vaccinated. Defendant said she objected to the present system of performing the operation, which she said was inoculation not vaccination. She wrote to Mr. W. Washbourn, M.R.C.S., to come and vaccinate her children from cow-lymph. She showed him a cow that had cow-pox, but he would not undertake to draw lymph from the teats and vaccinate the children. She added that she would not consent to her children being inoculated with calf lymph, as calves never had cow-pox, that she could perform the operation and that all the men on her farm had been vaccinated in the process of milking from the lymph of the cow getting into cracks in their hands. The clerk to the magistrate pointed out that the law called the system to which defendant objected "vaccination." Defendant asked if the requirements of the law would be fulfilled if she performed the operation herself, and the chairman of the magistrates said that if she obtained a medical certificate to the effect that it was properly done that would doubtless be sufficient. The usual order to have the children vaccinated was made, with costs.

The Sanitary Condition of Glamorganshire.

At the quarterly meeting of the sanitary committee of the Glamorganshire County Council, Dr. Williams, the medical officer of health, gave an exhaustive report upon the sanitary condition of the county; he stated that the river Ogmore, which he had recently inspected, was the main sewer for Maesteg, Garw, Ogmore, Bridgend, etc., and until these authorities were compelled to provide for the disposal of the sewage, the foul condition of the river would not be materially improved. The condition of the river was foul, the stench unbearable and conducive to ill-health and fever among the inhabitants. He also added that on the occasion of his first inspection of the district three years ago he heard just the same tales

as on the present occasion: Caerphilly and Pwllypant were to be provided with a better water-supply, Nantgarw, Glanllyn, Taff's Well, &c., were to be connected with the main sewer, the pollution of rivers was to be stopped, and a host of other promises were made, but not kept. When complaints were made by the committee the answer was that the district council was doing its best. Dr. Williams is of opinion that the district council has not fulfilled its promises, and he instances a communication received in March, 1895, from the Llandaff and Dinas Powis authority in respect to connecting Tongwynlais with their sewer. Since that time Tongwynlais has been a hot-bed of fever, and twenty out of the twenty-three cases of typhoid fever notified in the whole district in 1895 occurred there. Dr. Williams adds that this is not to be wondered at, as there is everything ready for the spread of disease.

The Nursing Arrangements at the Cardiff Infirmary.

There has recently been a considerable falling off in the receipts from the private nursing department of the Cardiff Infirmary, for in 1893 the gross earnings of the nurses was £1060 and the profit £574; in 1894 the earnings were £841 and profits £333; and in 1895 £696 was taken and the profits were only £200. With a view to encouraging the nurses to remain for a longer period at the infirmary it was decided at a meeting of the Cardiff Infirmary general committee, held on June 11th, that from July 1st next a trial for six months should be given to the following scheme—viz., that during the second year nurses should receive a salary of £16, the third year £20, the fourth year £25 and 5 per cent. of their earnings if sent out for private nursing, the fifth year £25 and 10 per cent. of the private nursing fees, the sixth year £28 and 15 per cent. of the private nursing fees, and during the seventh year £30 and 15 per cent. of these fees. This seems to be a good plan, and it will doubtless have the desired effect upon the nursing staff of this institution.

Estate of the late Mr. Charles Highett.

The will of the late Mr. Charles Highett, M.R.C.P. Edin., L.S.A. Lond., formerly of Field House, Montpelier, Bristol, who died on April 20th, has been proved in the Bristol District Registry of the Court of Probate. The gross value of the personal estate is £63,737 15*s.* 9*d.* and the net value £63,650 14*s.* 3*d.*

June 24th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Complimentary Dinner to Dr. G. H. Philipson.

A DINNER was given last week to Dr. G. H. Philipson by the honorary physicians and surgeons of the Royal Infirmary, Newcastle-upon-Tyne, upon his retirement from the position of physician to the infirmary. All the staff attended. In replying to the toast of the evening—"The Health of Dr. Philipson"—which was proposed by Dr. Arnison, the senior surgeon to the infirmary and the oldest member of the staff—Dr. Philipson returned thanks in very feeling terms, the wrench he was experiencing in terminating his long services being painfully apparent to his colleagues. The rule under which an honorary officer is compelled to retire at the age of sixty years may be of advantage to those seeking promotion—it obviously is so, but it is difficult to understand why a physician should be called upon to retire at the age of sixty, whilst statesmen, soldiers, bishops and judges are allowed to hold office till they are ten years and, indeed, often more than ten years older. The present Master of the Rolls is more than sixty, and there is no more capable or astute judge upon the bench.

Election of Physician to the Royal Infirmary, Newcastle-upon-Tyne.

The selection committee met in the infirmary on Thursday last and appointed Dr. George Redmayne Murray an honorary physician. A few months ago Dr. T. Beattie was appointed pathologist, so that two new officers are now upon the staff. The charity is open to congratulation upon its having secured the services of two such excellent officials and the medical side of the house is materially strengthened by the addition of another member to the teaching staff. Formerly the pathologist was a full physician; under the present arrangement the duties of the pathologist will be discharged by one who is not otherwise engaged at the hospital. Before the selection committee separated the chairman announced that he had received notice of a motion to the effect that it was desirable that two assistant physicians should be added to the staff. At present there are no assistant physicians, although there are four assistant surgeons.

Lieutenant-Colonel Gowans, M.D.

By the resignation of this officer, who has been connected with the 3rd Durham Volunteer Artillery for eleven years, the service has sustained a loss which will be felt for long. Dr. Gowans has been a most active and useful volunteer and leaves a regiment of 400 men in a very flourishing condition. When he was appointed commanding officer there were only 250 men in the corps and it is owing to Dr. Gowans' energy that the number has been increased to 400.

Report of the Medical Officer of Health for Newcastle-upon-Tyne.

In his twenty-third annual report, Dr. H. E. Armstrong, the energetic and able medical officer of health for Newcastle-upon-Tyne, states that the death-rate of the city, for the past year, has been at the rate of 20 per 1000, slightly below that of the average rate in 33 large towns of the United Kingdom. There has been an increase in the number of marriages, and in the deaths from zymotic disease. Scarlet fever, diphtheria, and typhoid fever have been more fatal than in 1894, but there have been no deaths from typhus or from small-pox. The deaths of infants under one year of age, show an increase of 216 over those of 1894, and 44 uncertified deaths were registered against 37 in the preceding year. 27,628 inspections of tenement property were made during the year and 197 cases of nuisance were heard before the magistrates. The work under the Food and Drugs Act has been more than double that of 1894.

Newcastle Lifeboat Saturday.

A very successful demonstration in connexion with the Lifeboat Fund was held in Newcastle on June 13th. The day was fine and the streets through which the procession passed could hardly have been more crowded. The mayor and mayoress, the sheriff, and other city dignitaries took part in the demonstrations, and among the carriages were three filled with infirmary nurses in their uniforms, who begged persistently and successfully. Mr. John Burdon is chairman of the Saturday Lifeboat Committee, and much of the success of the movement here is due to his zeal. As the result of Saturday's proceedings a goodly sum of money has been added to the funds of the Royal Lifeboat Institution. Mr. John Burdon is a busy medical man in Newcastle, not too busy however to identify himself with this and many other similarly useful movements having for their object the safety and well-being of the people.

Newcastle upon-Tyne, June 22nd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh University Court.

AT the last meeting of the Edinburgh University Court it was intimated that a new Vans Dunlop scholarship had been instituted in Pathology and Medical Jurisprudence, and that a Pattison bursary had been assigned to Clinical Surgery.

The Sanitary Inspectors' Congress.

The Sanitary Inspectors' Association of Scotland held its annual congress in Oban on Friday of last week. The Association was welcomed by the Provost and various papers of interest were contributed by members.

The Death of Dr. C. M. Campbell.

Dr. C. M. Campbell, formerly medical superintendent of Murthly Lunatic Asylum, died in Edinburgh on Saturday. He was a young man, having graduated in medicine at Edinburgh in 1878. Before his appointment to Murthly he had served in the Durham County Asylum, the Friends' Retreat in York, and the West Riding Asylum. He had to resign his position at Murthly owing to ill-health. One of the features of his tenure of office at Murthly was the establishment of an evening school of which the Commissioners in Lunacy spoke highly in their reports.

British Medical Association.

It is understood that steps are being taken in Edinburgh

with a view to invite the British Medical Association to hold its annual meeting there in 1898.

Glasgow University.

The University Court has decided to recognise Dr. R. M. Buchanan and Dr. J. Edgar as extra-academical lecturers, whose courses at Anderson's College Medical School on medical jurisprudence and midwifery respectively qualify for graduation in medicine in the University. Mr. Jno. C. Willis, M.A., has resigned his appointment as Demonstrator of Botany in the University, and he is to be succeeded by Mr. Wm. H. Lang, B.Sc. The lecturers in the faculties of Arts and Medicine at Queen Margaret College have been re-appointed for another year. The final examinations for graduation in medicine and surgery commenced last week, and the clinical portion of the examination will be continued until July 3rd. On that date the written examinations will commence and those in turn will be followed by the oral and practical lists. The results will be published about July 21st and the graduation ceremony is announced for the 23rd. The number of candidates who have entered for the examination is 132, including nine women candidates from Queen Margaret College. The session which is just concluding will be memorable by reason of the Kelvin jubilee celebrations. The entire functions were altogether successful, the arrangements in every respect being admirable. At the banquet given in honour of Lord Kelvin on the 16th inst. a telegram of congratulation from the Queen was read, and amongst the speakers were the Italian Ambassador, Lord Rayleigh, Sir Joseph Lister, and Professor Gairdner. On the following day the excursions on the Firth of Clyde were somewhat interfered with by broken weather, but a determination to make the best of things was everywhere manifest. These festive proceedings, however enjoyable in themselves, do not create an atmosphere favourable to the steady pursuit of work, and both professors and students to some extent feel their disturbing influence. The present week is to see a further academical function—not, however, of a very thrilling type—as the principal and professors have issued invitations to a reception in the Bute Hall for the 26th inst. in connexion with the Pan-Presbyterian Council at present holding its meetings in the city.

Memorial to a Medical Man.

A handsome memorial has recently been erected in the Howard Park, Kilmarnock, to the memory of the late Dr. Marshall, who was in practice in Kilmarnock for forty-two years and died in 1894. The memorial, which consists of a marble statue of Dr. Marshall placed on a carved granite pedestal, was unveiled on the 21st inst. by Professor Gairdner, who delivered an appreciation of the services which for so many years Dr. Marshall had rendered to the town and district. Though unknown in the great world he had lived up to the ideal of a medical man and had made his influence felt on many lives.

The Health of Aberdeen.

Owing to the prevalence chiefly of measles and scarlet fever there were on Friday night of last week 220 patients in the City Hospital, by far the largest number on record. The cases of zymotic diseases reported for week ended Saturday, 20th inst., however, showed a decline in whooping-cough. Measles numbered 14; scarlet fever, 70; diphtheria, 2; typhoid fever, 1; whooping-cough, 22; and erysipelas, 4; total, 113, of whom 53 were removed to City Hospital.

June 23rd, 1896.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The University of Dublin.

A MEETING of the Senate was held on the 19th inst. for the purpose of considering graces sent down by the committee for confirming degrees. The Rev. Dr. Haughton, Senior Proctor, said that he was instructed to inform the Senate that the Provost and Senior Fellows had passed a grace of the house to confer the degree of Doctor of Medicine *honoris causâ* on Sir Willoughby Francis Wade, a distinguished graduate of the University, who occupied a leading position among the medical men of Birmingham and who had made his name famous by his writings on medical subjects. A similar honour in the shape of the degree of Doctor of Science *honoris causâ* was, on the same occasion, conferred on Dr. John Batty Tuke, the distinguished neurologist and the President of the Royal College of Physicians of Edinburgh.

The Transfer of Lunatics from the Belfast Asylum to the Workhouse.

A discussion in reference to this vexed question has taken place between committees of the Belfast Asylum and the board of guardians, and it would seem that Dr. Cuming, who occupied the chair, and other members of the asylum board, when they were considering the claim to have terms agreed upon pursuant to Section 9 of the Lunatic Asylums (Ireland) Act, 1875, for the support of lunatics sent to the workhouse by the asylum authorities, suggested that before making any arrangement the guardians should be able to present to the governors a statement that the inspector of lunatics was satisfied with the accommodation which the guardians provided for the lunatics and that they could not recommend the payment of any money to the guardians until this was done. Dr. Cuming also suggested that their medical officer should have complete control or supervision over the lunatics who were sent from the asylum to the workhouse. The guardians' committee would not concede the latter terms, but agreed that the parties so sent should receive all the care that was rendered necessary by the Acts of Parliament upon the subject. The guardians' committee stated they would be satisfied with the capitation grant made by the Government for the support of lunatics in the asylum, which was stated to be 4*s.* per head per week. The entire subject will be considered at the next meeting of the asylum governors. It would seem that seventy-seven lunatics are in the workhouse who have been sent down from time to time from the asylum, and they have cost the ratepayers on the lowest calculation £6000. It would also appear there are forty-seven lunatics in the workhouse sent down to that place illegally as they did not belong to the Belfast Union, but came from other districts. If this statement, which was made at the last meeting of the Belfast board of guardians (June 16th), be confirmed then all these forty-seven lunatics should not have been sent from the asylum to the Belfast workhouse, but to the original unions from whence they came.

Belfast: the Coroner's Salary.

At an adjourned meeting of the City Corporation of Belfast in committee on June 22nd it was decided by a majority that the salary attached to the office of coroner of Belfast as it is at present, and as it may be extended, shall be fixed at £650 a year, which shall cover everything except an office to be provided by the council in the new town hall for the transaction of the official business of the coroner.

Poisoning by Carbolic Acid.

An unfortunate case of death from carbolic acid poisoning took place on June 21st in Belfast. It seems that a man, a painter by trade, went to his home on Sunday night after eleven o'clock under the influence of drink, and going upstairs to a bedroom swallowed the contents of a bottle (which he probably thought had whisky or other spirits in it) containing carbolic acid which his mother had bought for sprinkling about the room as a vermin destroyer and had placed on the corner of the mantel-piece. The man died before the medical man, who came at once when summoned, had time to reach the house. The verdict of the jury was death from carbolic acid poison, self-administered by misadventure.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Proceedings at the Académie de Médecine.

THE proceedings at the last meeting of the members of the above-named corporation included the following communications. M. Péan stated that a careful study of the cranial vault has led him to the conclusion that the bones composing the left half are thicker than those of the right, this being in direct opposition to the rule applying to the rest of the skeleton. He also noticed that all the bones of the vault were frequently thickest at the sutures. The thickness of the cranial bones in the healthy differs according to the age, the sex, and the development of the

skeleton in general, these variations being also found in the following pathological conditions: rickets, hereditary syphilis, hydrocephalus, idiocy, epilepsy, mental degeneration, &c. It is important to bear the preceding facts in mind in view of a possible trephining operation. M. Lejars reported the case of a woman aged twenty-nine years who, having swallowed half a tumblerful of commercial hydrochloric acid on Jan. 11th, 1896, suffered immediately from intense pain and repeated vomiting of dark blood. Feeding became impossible, all food being rejected as soon as swallowed. Milk in quite small quantities was the only nourishment tolerated. Pyloric stenosis rapidly developed, the stomach being considerably dilated, while any food the patient had taken the previous day, together with a large quantity of black fluid, was got rid of by daily washing out the stomach. Emaciation, however, made great progress and the general condition being highly disquieting supra-umbilical laparotomy was practised on March 12th. The greatly distended stomach presented on its anterior surface yellow cicatricial striæ, the pyloric region being occupied by a dense mass. Gastro-enterostomy was performed, a medium-sized Murphy's button being used. The operation, which was quickly over, was well supported. For the first three days nutritive enemata only were given; on the fourth day an egg, bouillon, and milk were swallowed. The patient was discharged in capital condition at the end of April, having gained 5½ kilogrammes in weight. Since her discharge the appetite has returned and she has eaten abundantly. At present she weighs 58 kilogrammes as against 38 kilogrammes, her weight before the operation. M. Lejars called attention to the following points—viz., the limitation of the burns to the stomach, the œsophagus having curiously enough escaped, and the rapidity of the development of the pyloric stenosis. M. Mouchet of Sens reported a case of double ovariotomy in a young woman three months advanced in pregnancy, the course of which was not interrupted, a healthy child being born at term. M. Marc Sée called attention to a mode of exploration of the abominal viscera, which he terms *exploration hydrostatique*. He stated that when this examination is conducted while the patient is immersed in a warm bath palpation is greatly facilitated, the abdominal parietes offering no resistance even in the obese.

The Health of Paris.

I deem it well from time to time to supply information concerning the sanitary condition of this beautiful city, which is just now looking its best. In a population of 2,424,705 (census of 1891) there died in the twenty-fourth week of the current year 844 persons, a diminution of 72 on the figures of the preceding week and of 80 on the average for the time of year. Epidemic diseases are rare. A noteworthy circumstance is the occurrence of only one death from typhoid fever, as was also the case during the preceding week. Measles caused 16 deaths (average equal 32). Scarlet fever is fairly prevalent (120 cases during the week), but it is of a mild type, having caused only 6 deaths. Small-pox is responsible for one death only (one also for the previous week). Phthisis caused 160 deaths and cancer 57. There were 19 suicides and 17 deaths from violence.

The Rôle of the Spleen in the Defence of the System.

M. Courmont and M. Duffan of Lyons communicated to the Société de Biologie (June 13th) the result of their experimental researches on the part taken by the spleen in defending the economy against the attacks of divers microbes. The animal chosen was the rabbit which supports splenectomy without losing flesh. Injections of the streptococcus pyogenes, staphylococcus pyogenes, and the bacillus pyocyanicus were practised on these splenectomised animals and on normal rabbits. Rabbits splenectomised from two to twenty-five days beforehand were found to be much more sensitive to the bacillus pyocyanicus than their normal companions, the animal dying in a few hours, whereas normal rabbits survived longer or altogether. The staphylococcus kills the prepared animal in ten hours in a dose insufficient to bring about a like result in the normal rabbit or which kills only in a week. When an attenuated sample of a very virulent culture of streptococcus was injected into the splenectomised rabbit, the animal splenectomised only a few days or hours previously resisted always better than the normal rabbit. The splenectomised rabbit may even survive altogether when the culture is still further weakened. It would thus appear that the spleen whilst useful in defending the system against the inroads of the bacillus pyocyanicus and the staphylococcus, is positively mischievous in the struggle against the very virulent or attenuated streptococcus. In both cases a focus of production of phagocytes is suppressed.

The tenth session of the French Surgical Association will meet at the Paris Faculty of Medicine on Monday, Oct. 19th, 1896, under the presidency of M. Terrier. The two undermentioned subjects will be discussed: "Surgical Therapeutics of Club-foot," "Treatment of Genital Prolapsus."

The Prefect of the Seine has recently addressed a circular to medical inspectors of schools calling upon them to supply in addition to the usual certificate of recovery of scholars from diphtheria, another issued by the Bacteriological Service of the City of Paris affirming the absence from the mouths and throats of those same children of Loeffler's bacillus previously to their re-admission to school.

The death is announced at an early age of Dr. Girode, médecin des hôpitaux de Paris. He collaborated with Professor Brouardel and Dr. Gilbert in the publication of an important work on Medicine (Traité de Médecine et de Thérapeutique, 1895), the first chapter of the first volume on Maladies Microbiennes en Général being from his pen.

June 23rd.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The New Manicomio.

THE celebrated lunatic asylum (*manicomio*) in the Trastevere overlooking the Tiber is shortly to be pulled down and a new edifice worthy of the capital and of the progress of medico-psychology is in contemplation. Already the leading alienists of the kingdom are suggesting the lines on which the rehabilitated establishment should be laid, and the Commendatore Azzurri's monograph on the subject is attracting the attention due to his high reputation in hygienic architecture. He is very severe on the present condition of Italian hospitals for the insane. So defective are they in all respects that their reform has passed into the first line of the country's needs. Any "stamberga" (ramshackle building), according to the Commendatore, has hitherto been thought good enough for a madhouse; and if the great Roman one, with its successive improvements and its fine "succursali" (dependent quarters), in the Janiculan, is now inadequate, the fact simply throws into stronger relief the imperfections of those which still retain their mediæval character. "Our poverty, but not our will, consents," is the invariable answer of Italians to such criticisms, and I fear the "money consideration" will make itself felt even in the reconstruction of our Manicomio. The pavilion system has many advocates, but the Commendatore Azzurri, fortifying his own opinion with that of more than one authoritative alienist, is almost vehement in his recommendation of the "manicomio-villaggio" (asylum village). Mainly on the lines of Gheel, it must assume, he urges, features of its own in harmony with local and national conditions. Rome, or rather the Agro Romano, should, he thinks, set the example now as formerly, and, with her splendid choice of healthy sites on the Alban or Sabine uplands, might in a few years furnish Italy with an object-lesson which other provinces would gladly be proud to imitate. It is too much the fashion to think the Gheel precedent as *sui generis* owing its success to circumstances not to be commanded elsewhere. The Commendatore Azzurri indicates how it might (as far as Italy is concerned) be improved upon; and in any case he puts it overwhelmingly *en évidence* that almost any system would be better than that now prevailing in the peninsula and islands.

A Soudanese Fortress in Midsummer.

One of the medical inmates of the stronghold at Kassala writes, under date May 30th, that the heat, continuous and well-nigh insupportable, averages from 50° to 52° C. To secure a consecutive sleep of two or three hours it is necessary to lie under a sheet wrung out of cold water. One day, after a violent *kamseen* (wind of the desert), there was nothing to eat because the dinner tables, served in the open air, remained covered with sand, necessitating the prompt removal of all the viands. The wind was followed by a torrential shower which certainly cooled the air; but then, by way of compensation, an hour

or two afterwards there ensued a regular invasion of toads, snakes, frogs of abnormal bulk, and other specimens of the like *fauna* which consumed the rest of the evening in hunting them back to their haunts. Life in midsummer at Kassala is not (as Albert Smith's surgeon has it) "a bed of *fol. ros.!*"

June 22nd.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Cholera Bulletins.

DURING the past fortnight cholera has been very satisfactorily diminishing in Alexandria, and the average daily number of new cases is now only six, and on two days fell to three. In Cairo the new cases per day have fallen from more than 50 to an average of 28 with a minimum of 20. It is fair to say that the disease is being well kept under in Cairo by the Englishmen employed in sanitary, police, and scavenging work. In one of the quarters a Coptic family was caught burying a corpse without a death certificate, but there is no evidence of burials in the houses and gardens as took place in Cairo in 1883. I regret to have to report a general lighting up of the epidemic in Lower Egypt and in the provinces of Upper Egypt immediately south of Cairo. Excluding Cairo and Alexandria there are now every day from 47 to 106 cases reported from a total of thirty-eight towns and villages. The distribution in the provinces is as follows:—Ghizeh, two districts; Benisouef, three; Gharbiyeh, twelve villages, Behera seven, Da Kahlieh three, Charkieh four, Menoufieh one, and Galioubiyeh, two. But it must be remembered that in addition to these the disease is probably lurking in many country villages where the ignorance or laziness of the local officials has not yet discovered it. Dr. Wilson has now been sent to control the infected districts of Charkieh province, and the three English sanitary inspectors are all very hard at work fighting the disease.

Disinfection Difficulties.

Given a hopelessly ignorant public, a virulent epidemic, and a Government not habitually accustomed to repressive acts at variance with the habits of the people, and we have all the elements necessary to hamper the work of sanitary officials. I have already mentioned an attack in Alexandria upon a cholera ambulance waggon, and a free fight at old Cairo between an Italian disinfector and a hostile mob. Fortunately the native court of justice sentenced six men to prison for periods varying from two to six months for this attack. Then came nine days ago the revolution of about 500 Syrian students in the crowded and very sacred University of El Azhar with its 12,000 graduates of all ages from early manhood to grey old age. A Syrian from this turbulent section was attacked by cholera and removed to hospital where he shortly died. The old myth was at once started that the doctors had poisoned him, and when a second case occurred the doctor was not allowed to remove him. The Sheikhs of the Mosque were all absent and refused to come when invited by the police to quell the riot. Both doctors and police seem to have behaved with the greatest moderation, and fortunately they were all Mussulmans; but when they found that the governor who very pluckily went alone to expostulate with the rioters was severely stoned it was obviously time to put an end to the disturbance. Coles Pasha arrived with twenty picked men with loaded rifles and vainly essayed to open the mosque door, exposed to a storm of paving-stones from the windows of the precincts. He got the door slightly ajar and then fired into the mosque over the heads of the crowd. This was answered by yells and stones, and reluctantly the order was given to fire at the crowd. This produced an immediate dispersal and the Syrians flew to their bedrooms to hide. The police dragged them out, arrested about 500, and marched them at once to prison. The next day the bulk of them were released, sixty-five are now being exiled, and fifteen are going to be brought to justice. The Khedive has, moreover, decided to close the Syrian section of the University for one year. The greatest credit is due to both Coles Pasha and the governor for a successful ending of a very dangerous episode, and they have both been publicly thanked by the Egyptian Government. Since that day there has been no interference with sanitary officers in Cairo. But in order to make thoroughly understood the serious and regrettable side of this incident I must remind readers that the theological University of El Azhar is the most renowned in all the East—for the pious a Rome and Jerusalem combined. A hundred years ago no Christian was allowed even to pass before its door, and one of the most hated incidents of the hated French occupation of this country was that Bonaparte converted the mosque into a temporary stable. It is difficult to believe that we shall not hear of this incident again. A very widespread belief is, unfortunately, current both in Cairo and the provinces that low-class Europeans are going about with sweatmeats to poison the faithful, and that this instead of cholera is the real cause of the epidemic. One despairs of finding any method to counteract an unfounded belief of this kind. With the exception of the English workers nearly all sanitary officers are Mohammedans, and the greatest care is being taken to avoid offending any religious feelings.

The Nile Flood.

There is no sign as yet of any rising of the Nile at Akasheh, south of Wady Halfa, and there can be no improvement in the water-supply of Cairo and the Delta for another six weeks. The Sanitary Department still has a very anxious time before it, but the most hostile foreigners and the most ignorant natives all agree in comparing the results of this year as favourably as possible with the supine inaction of the Egyptian "Conseil de Santé" during the cholera of 1883.

The Abbassiyeh Lunatic Asylum.

Although cholera pervades the conversation and demoralises the work of several departments, it is satisfactory to note that in spite of all drawbacks the steady reform of the Abbassiyeh Asylum is continuing. It is really wonderful to witness the peaceful revolution which Dr. Warnock has brought about during the last fifteen months. More than 200 new windows have been opened in the wards, and no longer is there any animal smell, though the wards are more crowded than ever, chiefly because by caring for the sick in a well appointed infirmary the death-rate has been diminished by about half. New baths have been built, the garden has been furnished with verandahs, and new cells have been constructed for excited patients. Best of all, instead of all the men sitting idly upon their beds all day, some 200 out of a total 500 are working every day, mostly as masons and carpenters. I have the authority of the Public Works Department for stating that the work turned out is extraordinarily good, and all the improvements so far have only cost £2000. Work for another £2000 is planned for the present year, and then—what then? Will His Highness the Khedive still insist that Dr. Warnock's appointment must be for only two years?

Cairo, June 10th, 1896.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen were at the ordinary meeting of the Council on Thursday, the 11th inst., elected examiners for the ensuing collegiate year in the subjects indicated, viz:—

First Examination—Membership:

Elementary Biology.—Peyton Todd Bowman Beale, F.R.C.S.Eng., L.R.C.P.Lond., of King's College Hospital; George Alfred Buckmaster, M.R.C.S.Eng., M.D., B.Ch. M.A. Oxford, of St. George's Hospital; Thomas William Shore, M.R.C.S. Eng., M.D., B.Sc. Lond., L.R.C.P. Lond., of St. Bartholomew's Hospital; and Thomas George Stevens, F.R.C.S. Eng., M.D., B.S. Lond., M.R.C.P. Lond., of Guy's Hospital.

Elementary Physiology.—John Rose Bradford, M.R.C.S. Eng., M.D., D.Sc. Lond., F.R.S., of University College Hospital.

Second Examination—Membership:

Anatomy.—Richard Clement Lucas, F.R.C.S. Eng., M.B. and B.S. Lond., of Guy's Hospital; George Henry Makins, F.R.C.S. Eng., L.R.C.P. Lond., of St. Thomas's Hospital; William Johnson Walsham, F.R.C.S. Eng., M.B. and C.M. Aberd., of St. Bartholomew's Hospital; and Alfred Harry Young, F.R.C.S. Eng., M.B. and C.M. Edin., of Owens College, Manchester.

Physiology.—John Rose Bradford, M.R.C.S. Eng., M.D. & D.Sc. Lond., F.R.S., University College Hospital; D'Arcy Power, F.R.C.S. Eng., M.A., M.B. Oxford, St. Bartholomew's Hospital; and Walter George Spencer, F.R.C.S. Eng., M.B. & M.S. Lond., Westminster Hospital.

Final Examination—Membership:

Midwifery.—William Duncan, F.R.C.S. Eng., M.R.C.P. Lond., M.D. Brux., Middlesex Hospital; Montagu Handfield-Jones, M.R.C.S. Eng., M.D. Lond., M.R.C.P. Lond., St. Mary's Hospital; Arthur

Hamilton Nicholson Lewers, M.R.C.S. Eng., M.D. Lond., M.R.C.P. Lond., London Hospital; and Amand Jules McConnell Routh, M.R.C.S. Eng., M.D. & B.S. Lond., M.R.C.P. Lond., Charing-cross Hospital.

First Professional Examination—Fellowship:

Anatomy.—William Frederick Haslam, F.R.C.S. Eng., L.S.A. Lond., Mason College and General Hospital, Birmingham; Walter Hamilton Acland Jacobson, F.R.C.S. Eng., M.B., B.Ch., M.A., Oxford, Guy's Hospital; Charles Barrett Lockwood, F.R.C.S. Eng., St. Bartholomew's Hospital; and John Bland Sutton, F.R.C.S. Eng., L.R.C.P. Lond., Middlesex Hospital.

Physiology.—Benjamin Thompson Lowne, F.R.C.S. Eng., L.S.A. Lond., Middlesex Hospital; Edward Albert Schafer, M.R.C.S. Eng., F.R.S., University College, London; Ernest Henry Starling, M.R.C.S. Eng., M.B., B.S. Lond., M.R.C.P. Lond., Guy's Hospital; and William Stirling, M.D., C.M., D.Sc., F.R.S. Edin., Owens College, Manchester.

Diploma in Public Health—Part I.:

Arthur Pearson Luff, M.R.C.S. Eng., M.D., B.Sc. Lond., M.R.C.P. Lond., D.P.H. and F.P. & S. Glasg., St. Mary's Hospital.

Part II.:

Edward Seaton, M.R.C.S. Eng., M.D. Lond., F.R.C.P. Lond., F.C.S., F.I.C., St. Thomas's Hospital.

The following gentlemen having passed the necessary examinations and having conformed to the by-laws and regulations were admitted Members of the College, viz.:—

Carvell, John Maclean, L.S.A. Lond., London Hospital.
Lefevre, John Matthew, M.D. McGill, McGill College, Montreal, and University College Hospital.

The following gentlemen, whose names are arranged in order of seniority as Members in accordance with the by-laws, were admitted Fellows of the College, viz.:—

Tomlinson, William Henry, L.S.A. Lond., Owens College and Royal Infirmary, Manchester; date of membership, Oct. 21st, 1886.
Macnab, Allan James, L.R.C.P. Lond. (Surgeon-Captain I.M.S.), King's College Hospital; Jan. 27th, 1887.
Wood, John Forrester, L.R.C.P. Lond., St. Bartholomew's Hospital; May 9th, 1889.
Waddelow, John Joseph, L.R.C.P. Lond., L.S.A. Lond., King's College Hospital; July 30th, 1891.
Paling, Albert, M.B., B.S. Lond., L.R.C.P. Lond., Middlesex Hospital; May 12th, 1892.
Rayner, David Charles, L.R.C.P. Lond., University College and General Hospital, Bristol, and London Hospital; May 12th, 1892.
Smith, William Robert, M.B. Lond., L.R.C.P. Lond., L.S.A. Lond., King's College Hospital; Aug. 1st, 1892.
Coaker, Francis William John, L.R.C.P. Lond., London Hospital; Feb. 9th, 1893.
Baldwin, Aslett, L.R.C.P. Lond., Middlesex Hospital; July 27th, 1893.
Scrase, Frank Edward, L.R.C.P. Lond., University College and Royal Infirmary, Bristol, and St. Bartholomew's Hospital; July 27th, 1893.
Sharp, Arthur John, M.D. Lond., L.R.C.P. Lond., Guy's Hospital; July 27th, 1893.
Campbell, Robert, M.B. R.U. Irel., L.R.C.P. Lond., Queen's College and Royal Hospital, Belfast; Nov. 9th, 1893.
Maingay, Henry Bertram, L.R.C.P. Lond., St. Bartholomew's Hospital; Nov. 9th, 1893.
Taylor, Edwin Claude, M.D. Lond., L.R.C.P. Lond., Cambridge University and Guy's Hospital; Feb. 8th, 1894.
Adams, Evelyn George Beadon, L.R.C.P., Lond., St. Bartholomew's Hospital; May 10th, 1894.
Dick, John Lawson, M.B., C.M. Ed., L.R.C.P. Lond., Edinburgh University and St. Bartholomew's Hospital; May 10th, 1894.
Parry, Leonard Arthur, M.B. Lond., L.R.C.P. Lond., Guy's Hospital; May 10th, 1894.
White, Charles Powell, B.A. Cantab., L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital; May 10th, 1894.
Lockyer, Cuthbert Henry Jones, L.R.C.P. Lond., Charing-cross Hospital; July 30th, 1894.
Ray, John Howson, M.B., Ch.B. Vict., L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester; July 30th, 1894.
Stone, William Gream, M.B., B.Ch. Oxford, L.R.C.P. Lond., St. Thomas's Hospital; Nov. 8th, 1894.
Bryant, Charles Hilary, M.B. B.S. Durh., L.R.C.P. Lond., Durham University and Guy's Hospital; Feb. 7th, 1895.
Moffat, Henry Alford, L.R.C.P. Lond., Guy's Hospital; May 9th, 1895.
O'Hea, James Patrick, M.B. Lond., L.R.C.P. Lond., St. George's and St. Bartholomew's Hospital; July 29th, 1895.
Cavenagh-Mainwaring, Wentworth Roland, M.B. Adel., L.R.C.P. Lond., Adelaide University and London Hospital; Feb. 13th, 1896.
Woods, William James, M.B., R.U. Irel., L.R.C.P. Lond., Queen's College and Royal Hospital, Belfast, and London Hospital; May 14th, 1896.
Hamilton, George Gibson, M.B. Edin., Edinburgh Royal Infirmary and University, and Royal Infirmary, Liverpool; not previously a member.
Mahon, Ralph Bodkin, M.D., R.U. Irel., Queen's College, Galway, and Royal University of Ireland, Dublin; not previously a member.

One other candidate passed the examination, but not having attained the legal age of twenty-five years will receive his diploma at a future meeting of the Council. Fourteen candidates were referred back to their professional studies.

The following gentlemen having passed the necessary examinations were admitted Licentiates in Dental Surgery:—

Ashby, Edgar, Guy's Hospital.
Barnard, Walter Burrows, L.R.C.P. Lond., Charing-cross Hospital and the Dental Hospital of London.
Bascombe, Ernest Dare, Guy's Hospital.
Beyer, Ernest Fritz Bertram, Owens College and Royal Infirmary, and Victoria Dental Hospital, Manchester.
Bidlake, Luther, Guy's Hospital.
Blomfield, Edgar Athelstan, Charing-cross Hospital and the Dental Hospital of London.
Briant, Wallace Watson, Guy's Hospital.
Byrne, Thomas Wafer, University College, Royal Infirmary and Dental Hospital, Liverpool.
Carter, Stuart, Mason College, Queen's and General Hospitals, and Dental Hospital, Birmingham.
Coltman, Ernest, Guy's Hospital.
Conder, Harold, Charing-cross Hospital and Dental Hospital of London.
Connor, George Washington, M.R.C.S. Eng., Middlesex Hospital and Dental Hospital of London.
Cowles, Hector Charles, Guy's Hospital.
Crapper, Harold Sugden, Guy's Hospital.
Crosby, Alfred Edward Binnington, Guy's Hospital.
Day, Kendrew James, Charing-cross Hospital and Dental Hospital of London.
De Mierra, Albert, Guy's Hospital.
Dunlop, Harry, Charing-cross Hospital and Dental Hospital of London.
Dupigny, Joseph Elford, Guy's Hospital.
Edey, George Russell, Guy's Hospital.
Fisher, Sydney Bailey, Mason College, Queen's and General Hospitals, and Dental Hospital, Birmingham.
Harris, Harold Octavius Whitfield, Guy's Hospital.
Heeson, Edwin Ernest Darley, Guy's Hospital.
Hemsted, Frederick, Charing-cross Hospital and Dental Hospital of London.
Hill, William Edmund, Middlesex and National Dental Hospitals.
Hinchliff, Charles John, Guy's Hospital.
Howe, Albert Frederick Alonzo, Guy's Hospital.
Knaggs, Sydney Angelo, Charing-cross Hospital and Dental Hospital of London.
Lacey, William John Mark, Guy's Hospital.
Mardon, Frederick William, Charing-cross Hospital and Dental Hospital of London.
Moore, Hubert William, Glasgow University, Middlesex and National Dental Hospitals.
Mordaunt, Osbert, Charing-cross Hospital and Dental Hospital of London.
Mudie, Walter, Charing-cross Hospital and Dental Hospital of London.
Mullord, Charles, London and National Dental Hospitals.
Newbery, Ernest Arthur, Charing-cross Hospital and Dental Hospital of London.
Nixon, Arthur Percival, University College, Royal Infirmary, and Dental Hospital, Liverpool.
Oliver, Norman Henry, Guy's Hospital.
Orridge, Alfred Edward Horton, Charing-cross Hospital and Dental Hospital of London.
Padgett, Frank Joseph, Charing-cross Hospital and Dental Hospital of London.
Plumley, Arthur George Grant, Guy's Hospital.
Read, Arthur, Guy's Hospital.
Riches, Charles John Hurry, Middlesex and National Dental Hospitals.
Robey, Arthur Malcolm, Mason College, Queen's and General Hospitals, and Dental Hospital, Birmingham.
Sexton, Walter, Middlesex Hospital and Dental Hospital of London.
Skae, John Walker, University College, Royal Infirmary and Dental Hospital, Liverpool.
Snell, Norris, Guy's Hospital.
Staton, Harry Hamilton, Charing-cross Hospital and Dental Hospital of London.
Stevens, Richard Henry, Guy's Hospital.
Ta'Bois, Leopold, Guy's Hospital.
Tasker, Benjamin George, Guy's Hospital.
Tebbitt, Ernest Reginald, Guy's Hospital.

Sixteen candidates were referred back to their professional studies.

SOCIETY OF APOTHECARIES OF LONDON, JUNE, 1896.—The following candidates passed in the undermentioned subjects:—

Surgery.—C. H. Dearden, Leeds; G. C. Jackson, Cambridge and St. Mary's Hospital; P. R. Lowe, Cambridge and Guy's Hospital; W. McCall, Charing-cross Hospital; G. H. Ormsby, Westminster Hospital; D. F. Roberts, Guy's Hospital; M. Sharp, Royal Free Hospital; E. M. Vernon (Intermediate), Royal Free Hospital; and H. A. Walker, Manchester.

Medicine, Forensic Medicine, and Midwifery.—A. P. B. Ellis, Glasgow and St. Mary's Hospital; P. R. Lowe, Cambridge and Guy's Hospital; W. J. Lubeck, Madras and University College Hospital; B. R. Turner, King's College Hospital; E. M. Vernon (Intermediate), Royal Free Hospital; and W. J. Woodman, St. Mary's Hospital.

Medicine and Midwifery.—J. C. R. Curtis, University College Hospital; and M. K. S. Holst, Royal Free Hospital.

Medicine.—E. R. Bowen, Bristol; and H. Clapham, Sheffield.

Forensic Medicine and Midwifery.—T. S. Biggs, Guy's Hospital.

Forensic Medicine.—J. C. McWalter, Dublin.

Midwifery.—F. L. Angior, Liverpool; and C. H. Dearden, Leeds.

To Messrs. Angior, Bowen, Clapham, Dearden, Lowe, Lubeck, McCall, Ormsby, Roberts, Walker, Woodman, and Miss Holst the diploma of the society was granted entitling them to practise Medicine, Surgery, and Midwifery.

PRESENTATION TO A MEDICAL PRACTITIONER.—Dr. Samuel Lawrence of Montrose, the medical officer of the burgh, on his retiring, after a period covering fifty-four years of active professional service, has been presented by his friends in that town and district with a portrait of himself. It is painted in oils and described as a faithful, striking

portrait. At the bottom of the frame the following words are inscribed: "Samuel Lawrence, M.D. Presented by friends.—Montrose, June, 1896."

THE FREE HOME FOR THE DYING.—The concert on behalf of this national charity, given at Stafford House on June 9th, by permission of the Duchess of Sutherland, and under the patronage of the Princess of Wales and the Duke and Duchess of York, realised £237 5*s.* 6*d.*, in addition to which a lady sent a cheque for £500 to the honorary treasurer, Mr. William Hoare.

MEDICAL MAGISTRATE.—On the recommendation of the Earl of Cork and Orrery, K.T., lord lieutenant of the county of Somerset, the name of Mr. Edward England Phillips, L.R.C.P. Edin., M.R.C.S. Eng., L.S.A. Lond. (retired), of Sydney House, Bath, J.P. for the county of Essex, has been inserted in the Commission of the Peace for the county of Somerset.

DIPHTHERIA IN LONDON.—The week ended June 13th witnessed a slight fall in the number of deaths registered from diphtheria in London, as compared with the week immediately preceding. The deaths in the three weeks ended June 6th had been respectively 56, 40, and 52; and the number in the week ended the 13th, while having a total 16 in excess of the corrected decennial average for the twenty-fourth week of the year, showed a fall to 49 deaths. Of these 5 were of persons belonging to Camberwell, and 3 of persons belonging to Bethnal-green, whilst several other parishes had 2 deaths each. All but one of the deaths were in young persons aged under twenty years, and 35 were of children under five years of age. The admissions to hospital in the week were 109, as against 132 in the previous week, and the Saturday found 753 cases under treatment, against 710 on the corresponding Saturday of May. In Greater London the deaths in the week from diphtheria were only 3 in number. Last week there was a further fall in the registered deaths from the disease in London, 40 being the total, or 7 in excess of the corrected decennial average for the twenty-fifth week. But the localisation of the disease in a fatal form was more pronounced, Poplar and Camberwell being each credited with 6, and 5 deaths being of residents of Islington. The admissions to hospital were 91, but the total of patients under treatment on Saturday last showed an increase of 2 on the previous week. The same disposition as to ages was witnessed, and the registered deaths from the malady in Greater London rose to 10. In this way the saving of life from this disease in the county of London was almost counterbalanced by the increase of fatal diphtheria in the suburbs.

THE DIFFUSION OF SMALL-POX.—The cases of small-pox arising in the metropolis have in the past two or three weeks shown some evidence of spread of the disease in certain parts of London. In the fortnight ended May 30th the cases removed to the hospital ships down the river numbered 8, and in the next week the same total was reached, followed in the week ended June 13th by 9 admissions. The total for last week was 18, or double that of the previous week. Much of this increase seems to be due to a localised outbreak of the disease in the parish of St. Mary, Islington. In one street in a poor and crowded district close to Finsbury Park there were 5 cases removed on Sunday of last week and several additional cases later in the week from the same street. A case has also been reported at Highgate. The number of patients remaining under treatment on the ships has risen from 19 at the close of May to 41 last Saturday. Figures from Gloucester show a continued decline in the amount of small-pox occurring in that city, the returns for the week ended on Thursday, June 18th, giving 16 fresh cases as the total of fresh notifications. The admissions to hospital were 12, the discharges 15, and the deaths 6 in number. Up to the date in question the aggregate of cases during the epidemic was 1952, and whilst it is locally looked upon as certain that the prevalence will now soon die out, it will probably be only after 2000 cases have been chronicled. Some interesting figures as to vaccination have appeared in the local press. It would seem that there have been performed, as a result of the small-pox prevalence, no fewer than 8400 primary vaccinations and 26,317 re-vaccinations, giving unitedly a total of 34,717 operations. Much credit is undoubtedly due to the vaccination committee of the guardians and—this being especially the case—also to the staff under them, including in the first place Dr. Bond. The task achieved has been an admittedly difficult one, and its accomplishment is matter for congratulation to all concerned. We trust that the amount of work has been equalled by the excellence of the quality. Occasion for further congratulation lies in the fact that the return of the Registrar-General for Ireland for the week ended June 13th contained an intimation that the end of the week found no patient suffering from small-pox in the hospitals of the city of Dublin, the last patient having been discharged that week. This is the first time that the hospitals have been free from cases of the disease since the week ended May 26th, 1894.

Parliamentary Intelligence.

HOUSE OF COMMONS.

THURSDAY, JUNE 18TH.

The Dog Muzzling Order.

SIR LEWIS M'IVER asked the President of the Board of Agriculture whether, having regard to the facts that the muzzling order had now been in operation in London for four months, that during that time all the stray and ownerless dogs had been destroyed, and that the muzzle caused great torment and discomfort to dogs in this hot weather, he could now recommend a relaxation of the order.—Mr. Walter Long replied that during the last four weeks twenty-two cases of rabies in dogs had been reported in London and the Home counties and 2962 stray dogs had been seized in London, only 899 of which were claimed. These circumstances seemed to him to clearly point to the necessity for the continuance in force of muzzling regulations, and he regretted therefore that he could not accede to the suggestion of his hon. friend

Prevention of Cruelty to Children.

Mr. M'CARTAN asked the Secretary of State for the Home Department whether his attention had been called to the published summary of the annual report of the National Society for the Prevention of Cruelty to Children, wherein it was stated that, on the year's revenue, as compared with expenditure, there was a deficit of £8500; and whether he was aware that a large proportion of the deficit arose through the society bearing the expenses of prosecutions of cases transferred to them by the metropolitan police and county constabulary, which, under ordinary circumstances, would be paid for out of public funds; and, if so, whether he was prepared to take such steps as would relieve the society from such expenses now and in the future.—Sir Matthew White Ridley replied that he saw from the society's report that the ordinary income for the year was less by nearly £6000 than the income of the previous year; but he was informed by the director and the report also showed that the decrease was almost entirely due to the fact that a reserve fund was raised by the society during the year. He was not sure that he understood what was the meaning of the hon. member in the second paragraph of his question, but costs of prosecutions, so far as they were provided for by law, fell upon the same fund whether the prosecutions were instituted by the police or by any other persons. He might add that the society informed him that they did not desire any such relief as that suggested, and that few things had been so valuable to their work as the cordial union which exists throughout the country between them and the police.

Street Accidents.

Questions were addressed to the Home Secretary with regard to the frequency of accidents in the streets arising from the practice of driving covered vans from which the driver is unable to see the traffic on either side of him, and Sir Matthew White Ridley, in reply, said that the number of accidents caused by covered vans was unhappily on the increase. Except, however, in the case of cabs and omnibuses the powers of the police extended only to the manner in which vehicles were driven and not to regulating the position of the driver in the vehicle. Special warnings were issued from time to time and distributed widely, but more than that he was afraid the police could not do.

FRIDAY, JUNE 19TH.

The Case of Surgeon-Captain Fowler.

Sir WALTER FOSTER and Dr. FARQUHARSON at this sitting of the House, and when the House was in Committee of Supply on the Army Estimates, brought forward the case of Surgeon-Captain Fowler, who was gazetted out of the Army because of certain proceedings in the officers' quarters of a militia regiment in training at Sheerness. These two members claimed that Surgeon-Captain Fowler had been unfairly treated by the War Office and that a court-martial should be held upon the proceedings in question.—Mr. Brodrick, Under-Secretary of State for War, resisted the claim, and defended the action of his Department, and nothing came of the matter.

MONDAY, JUNE 22ND.

River Pollution.

Mr. BARTLEY asked the President of the Local Government Board whether his attention had been drawn to a resolution of the General Purposes Committee of the County Council of Middlesex of the 9th inst., on the subject of the state of the River Brent owing to its pollution by sewage, and what steps were to be taken to remove this danger to the health of the western suburbs of London, especially during this hot weather.—Mr. Chaplin replied that he had received a copy of the resolution. Some time ago he undertook to communicate again with the Thames Conservancy Board and the Middlesex County Council as to preventing the pollution of the Brent, and this he had done. He was informed that in several of the cases of pollution of the river by sewage to which attention was drawn in the report on the subject made last year by one of the inspectors of the Local Government Board, either the pollution had now been

diverted from the stream or steps had been taken to abate it, while in two instances samples taken periodically since October last had been analysed and were reported to give good effluents. He understood that writs had been issued asking for injunctions against two of the district councils referred to in the inspector's report. One of these councils had applied to the Board for sanction to a loan for works of sewage disposal, and he was informed that proposals were to be made to the other by their surveyor as to the execution of some additional works with a view of preventing the pollution.

The Preserved Peas Question.

Mr. George Whiteley asked the President of the Local Government Board whether his attention had been called to a decision given by the Deputy Chairman of the County of London Sessions condemning preserved peas as injurious in the preparation of which sulphate of copper was used; whether he was aware that in France the Government after an exhaustive inquiry permitted the unrestricted sale of such peas as quite harmless, and the same was the case in the United States, Denmark, and other countries; whether, as the Justices of Glasgow and Bristol had held that such peas were harmless, he would consider what steps could be taken to prevent the retail grocer being subjected to such prosecutions; and whether, if satisfied that such peas were harmless, he would issue a recommendation to the local authorities to discontinue such prosecutions?—Mr. Chaplin said that his attention had been drawn to this decision, but he was not in possession of any reports which had been made in France or other countries and which had led to the unrestricted sale of peas coloured with sulphate of copper at the rate of three grains of copper salt to one pound of peas, on the ground that peas thus coloured were quite harmless; nor had he seen the decisions of the justices of Glasgow and Bristol to which his hon. friend referred. Indeed he was not in possession of any evidence which proved that peas coloured as described might be habitually consumed without injury to health, and under these circumstances he was unable to make the recommendation which his hon. friend suggested.

Factory Legislation.

Sir Charles Dilke asked the Secretary of State for the Home Department, with regard to the statement of Her Majesty's Chief Inspector of Factories that the power of the Secretary of State to issue orders applicable to particular classes of work in specified areas where outwork was carried on under insanitary conditions would enable the sweating districts to be dealt with, to what extent steps had been taken to deal with the sweating districts under the provisions of Section 5 of the Factory Act of 1895.—Sir Matthew White Ridley replied that immediately after the Act of last year came into force he made very full inquiries with a view to determining the districts in which the section should be put into operation. The qualifications, however, introduced into the section in the House of Commons were so stringent that he found no case existed in which he had power to make the order. The right hon. gentleman would remember that before such an order could be made it must be proved that the number and distribution of the population, and the conditions under which work was carried on, were such as to involve special risks of injury or dangers to the health, not only of the persons employed, but also of the whole district. He did not know of any case in which those conditions would be complied with except when a district was suffering from, or was threatened with, a special outbreak of infectious disease originating among the sweated workpeople. If that state of things should arise, or if in any other way the conditions which the Act imposed were fulfilled, he should be ready to make the necessary order.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BARBER, P. E., L.R.C.P. Lond., M.R.C.S., has been re-appointed a District Medical Officer, Wortley.

BISSHOPP, FRANCIS R. B., M.A., M.D. Camb., has been appointed Honorary Consulting Physician to the Tonbridge Union and Infirmary.

BLAKISTON, A. A., M.R.C.S., has been re-appointed Medical Officer of Health for the Borough of Glastonbury.

BRADSHAW, W. L., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Third Sanitary District of the Wycombe Union.

BROWN, WILLIAM, F.R.C.S. Edin., has been appointed Honorary Assistant Surgeon to the Cumberland Infirmary, Carlisle.

BURMAN, F. J., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer of Health for the Wath Urban Sanitary District.

BUTTERS, GEO., M.B., C.M. Edin., has been appointed Medical Officer by the Kempston Urban District Council.

CAREY, ARTHUR JAMES, L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the No. 4 Sanitary District of the Axbridge Union.

CARGYLL, L. VERNON, F.R.C.S., has been appointed Assistant Surgeon to the Royal Eye Hospital, Southwark.

CHRISTIE, MARGARET M. T., M.B. Lond., has been appointed Assistant Medical Officer for the Workhouse of the Greenwich Union, vice J. H. Griffiths, resigned.

COLLINS, W. J., M.D., F.R.C.S., B.Sc., Cert. Pub. Health, has been appointed Surgeon to the Royal Eye Hospital at Southwark.

COLWELL, J. R., has been appointed Public Analyst by the Clerkenwell Vestry and the St. Giles's District Board of Works.

CROWE, DANIEL, M.B., B.Ch. Dub., has been appointed Medical Officer for the Molvey Sanitary District of the Nuneaton Union.

CUNNINGHAM, A., M.B., C.M. Glasg., has been re-appointed Medical Officer of Health for Oldbury.

DAVIS, HENRY, M.R.C.S. Eng., has been appointed Anæsthetist to the Dental Hospital of London, Leicester-square.

EGLINTON, G. W., L.R.C.P. Edin., L.F.P.S. Glasg., has been re-appointed Medical Officer of Health for Street, Somerset.

FAWCETT, WM. H., M.D. Brux., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Wimborne and Cranbourne Union.

FLETCHER, F. J., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer for the Burton Coggles Sanitary District of the Grantham Out-Relief Union.

FRASER, P., M.D. Edin., B.Sc. (Pub. Health), has been appointed Medical Officer of Health for the Menai Bridge Urban Sanitary District, vice H. Rees, resigned.

GILBERT, J. K. MARTYN, B.A., M.B., B.C. Cantab., has been appointed Assistant Resident Medical Officer to Queen Charlotte's Lying-in Hospital.

HARDMAN, F. H., M.B., M.S. Edin., has been appointed Medical Officer of Health for the Kingston Rural Sanitary District, and also Medical Officer for the Teme Rural Sanitary District.

HOSEGOOD, S., M.R.C.S., has been re-appointed Medical Officer of Health for the Swinton and Pendlebury Urban Districts.

MACQUEEN, A., M.D., C.M. Edin., has been appointed Medical Officer of Health for the Drayton Rural Sanitary District.

MURRAY, GEORGE R., M.A., M.D. Camb., M.R.C.P. Lond., has been appointed Physician to the Royal Infirmary, Newcastle-upon-Tyne.

PARKINSON, J. PORTER, M.D., M.R.C.P. Lond., F.R.C.S. Eng., has been appointed Physician to Out-patients at the North-Eastern Hospital for Children, Hackney road.

PEARSON, H. CARDEN, M.B., C.M. Edin., has been appointed Junior House Surgeon to the Borough Hospital, Birkenhead.

PHILLIPS, SIDNEY, M.D. Lond., F.R.C.P., has been appointed Physician to In-patients, St. Mary's Hospital.

PHILIPSON, G. H., M.D. Cantab., F.R.C.P. Lond., has been appointed Consulting Physician to the Royal Infirmary, Newcastle-upon-Tyne.

RICHARDS, H. M., M.D. Lond., B.S., L.R.C.P., M.R.C.S., has been appointed Medical Officer of Health for the Borough of Chesterfield.

ROSCOE, HENRY, L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Medical Officer for the Crumpsalls Workhouse and the New Bridge-street Workhouse of the Manchester Township.

ROWLANDS, WM. H., M.R.C.S., L.R.C.P., has been appointed Assistant House Surgeon to the General Hospital, Birmingham.

SEYLER, C. A., has been appointed Public Analyst for the County of Pembroke, vice Morgan, deceased.

SNOWDEN, G. H., M.R.C.S., has been re-appointed Medical Officer for Halford Sanitary District of the Shipton Union.

SOPER, R. W., M.R.C.S., has been appointed Medical Officer of Health for Dartmouth Borough and Port.

SPOWART, T., L.R.C.P., L.R.C.S. Edin., D.P.H., has been re-appointed Medical Officer of Health for the Second District of the Wortley Rural Sanitary District.

STURGE, MARY D., has been appointed Anæsthetist to the Birmingham and Midland Hospital for Women.

TATE, WALTER W. H., M.D. Lond., M.R.C.P., has been appointed Assistant Obstetric Physician to St. Thomas's Hospital.

THURSFIELD, W. N., M.D. Edin., M.R.C.S., D.P.H. Camb., has been re-appointed Medical Officer for Ludlow.

WAINMAN, BENJAMIN, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Workhouse of the Hunslet Union.

WIGHTMAN, J. P., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Rawdon Urban Sanitary District, vice C. Dawson, resigned.

WILLIAMS, W. T., M.R.C.S., has been appointed Medical Officer for the Casual Wards and Test House of the Manchester Township.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

CENTRAL LONDON OPHTHALMIC HOSPITAL, 233, Gray's-Inn-road, W.C.—House Surgeon.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY, Chesterfield.—Resident Junior House Surgeon and Dispenser. Salary £50 per annum, with board, apartments, and laundress.

COUNTY BOROUGH OF HUDDERSFIELD.—Medical Officer of Health for the Borough and Urban Sanitary District of Huddersfield. Salary £400 per annum, with actual disbursements. Applications to the Town Clerk, Town Hall, Huddersfield.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians. Also Clinical Assistant in the Out-patient Department, and Clinical Clerk to the In-patient Physicians.

HOXTON HOUSE ASYLUM, London, N.—Clinical Assistant. Board, lodging, and washing provided, and an honorarium at the rate of £40 per annum.

KENSINGTON DISPENSARY.—Resident Medical Officer, unmarried. Salary £125 per annum, with furnished rooms, coals, gas, and attendance. Applications to the Hon. Secretary, 7, Stamford-road, Kensington-square

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence (no stimulants provided). Applications to the Secretary, Newport, Mon.

OWENS COLLEGE, Manchester.—Senior and Junior Demonstrator in Physiology. Stipends £150, rising to £200, and £100, rising to £150 respectively.

SEAMAN'S HOSPITAL SOCIETY (*Dreadnought*).—House Surgeon for Branch Hospital, Royal Victoria and Albert Docks, E. Salary £75 per annum, with board and residence.—Applications to the Secretary, Greenwich, S.E.

SHEFFIELD GENERAL INFIRMARY.—Junior Assistant House Surgeon for three years. Salary £50 per annum, with board, lodging, and washing. Also House Surgeon at a salary of £120; House Physician, salary £80; and Senior Assistant House Surgeon, salary £60 per annum.

ST. MARY'S HOSPITAL, Paddington, W.—Physician in charge of Out-patients for five years.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—House Surgeon for three years. Salary £100 per annum, with board, lodging, and washing in the hospital.

UNIVERSITY OF ABERDEEN.—University Assistant in Physiology. Salary £150, rising by annual increments of £25 to £200. Applications to Professor MacWilliam.

WESTERN GENERAL DISPENSARY, Marylebone-road, London.—House Surgeon, unmarried. Salary £60 a year, with board and residence.

Births, Marriages, and Deaths.

BIRTHS.

BATTLE.—On June 21st, at Mansfield-street, Cavendish-square, W., the wife of W. H. Battle, F.R.C.S., of a daughter.

DIXEY.—On June 20th, at Woodgate, Great Malvern, the wife of Harry E. Dixey, M.D., of a daughter.

MANN.—On June 19th, at Newgate-street, Chester, the wife of Alfred Mann, M.D., of a son.

MCCONNELL.—On June 16th, at Manor House, Ryburgh, Norfolk, the wife of Dr. Henry McConnell, of a daughter.

MONRO.—On May 23rd, at Rhanaghat, Bengal, the wife of Charles G. Monro, M.B., B.C., Rhanaghat Medical Mission, of a daughter.

POWELL.—On June 21st, at Brighton, the wife of Walter Powell, M.R.C.S., L.R.C.P. Lond., of a son.

SANDBERG.—On June 19th, at Liverpool Lodge, Brixton-hill, S.W., the wife of Arthur G. Sandberg, M.D., of a daughter.

STURROCK.—On June 15th, at Arima, Broughty Ferry, the wife of J. F. Sturrock, M.B., of a son.

MARRIAGES.

CROSS—OWTRAM.—On June 18th, at the Parish Church, Beckenham, Geoffrey Cross, M.R.C.S., son of the late James Cross, Esq., of Gringley, Notts, to Mary Constance, second daughter of C. H. Owtram, Esq., of Rylston, Croydon-road, Beckenham.

JONES—ATKINS.—On June 24th, at Christ Church, Banbury, by the Rev. Canon J. Herbert Jones, vicar of St. John's, Waterloo, Liverpool, father of the bridegroom, and the Rev. C. E. Graham Jones, vicar, Clement Royds Jones, M.B., of Calveley, Cheshire, to Ellen, youngest daughter of Edward Atkins, of Banbury.

KIRKPATRICK—KING.—On June 17th, at St. Mary's Church, Old Swinford, Stourbridge, William Kirkpatrick, M.D., eldest son of the Rev. G. Kirkpatrick, of St. Catherine's, Rathfarnham, to Agnes Helen, eldest daughter of Charles King, of Oakleigh, Stourbridge.

MEGGISON—AUSTIN.—On June 16th, at St. John's Church, Lewisham High-road, Thomas Cockburn Meggison, M.D., son of the late John Mill Meggison, of Berwick-on-Tweed, to Mabel, youngest daughter of the late Charles William Austin, of Lee, Kent.

MOLE—CLARKE.—On June 17th, at St. Mark's Church, New Ferry, by the Rev. Herbert E. Willson, Alfred Ernest Mole, M.B. Edin., of Adlington, eldest son of the Rev. R. Hopkins Mole, to Margaret Louisa, only daughter of the late John Clarke, Esq., of Buckley.

MOBERLEY—RYLEY.—On May 14th, at All Saints', Ladysmith, Natal, George Keble Moberly, L.R.C.S., L.R.C.P. Edin., elder son of the late Canon Moberly, of Cintra House, Winchester, to Florence Ryley, second daughter of — Ryle, Esq., M.L.A., of Moortown House, Ladysmith.

PORTER—HONEYMAN.—On June 23rd, at St. George's, Hanover-square, Bruce Porter, Army Medical Staff, son of Captain Porter, late R.A., to Essie, widow of the late J. H. Honeyman, M.D., of Auckland, New Zealand.

SMYTH—TEUSH-HECKER.—On June 16th, at St. James's, Norlands, Surgeon-Captain William Johnson Smyth, M.D., M.S., attached to the Grenadier Guards, to Amy Fanny White, younger daughter of the late H. C. Teush-Hecker, of Misterton, Leicestershire.

DEATHS.

CHOLMELEY.—On June 18th, at Clarendon-road, W., William Cholmeley, M.D., F.R.C.P., aged 73.

GAYLEARD.—On May 23th, at Kingston, Jamaica, Christopher Gayleard, M.R.C.S. Eng., grandson of the late Hon. James Gayleard, aged 59.

QUALTROUGH.—On June 12th, at 2, St. John's-road, Upper Holloway, W. J. Qualtrough, L.R.C.P., L.R.C.S., aged 51 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 25th, 1896.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Dry Bulb	Wet Bulb.	Solar Radia in Vacuo	Maximum Temp. Shade	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
June 19	30·21	WNW	66	59	127	77	59	...	Fine
" 20	30·23	W.	65	58	115	74	56	...	Fine
" 21	30·17	W.	64	55	122	74	55	...	Cloudy
" 22	30·19	N.	61	55	120	73	53	...	Fine
" 23	30·10	W.	65	59	121	77	56	...	Cloudy
" 24	29·99	S.W.	64	61	116	72	61	0·03	Overcast
" 25	29·96	N.E.	60	58	99	63	58	0·28	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.).

TUESDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (2 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY (1st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.).

THURSDAY (2nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Great Northern Central (Gynæcological, 2.30 P.M.).

FRIDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.).

SATURDAY (4th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY (1st).—DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND (20, Hanover-square, W.)—4.30 P.M. Council Meeting. 5 P.M. Cases will be shown.

OBSTETRICAL SOCIETY OF LONDON.—8 P.M. Specimens will be shewn by Dr. Remfry and others. Papers:—Dr. F. J. McCann: The Etiology of Gonorrhœa.—Dr. G. F. Blacker and Mr. T. W. P. Lawrence: A Case of True Unilateral Hermaphroditism with Ovotestis occurring in Man, with a Summary and Criticism of the Recorded Cases of True Hermaphroditism.

FRIDAY (3rd).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-st., Cavendish-sq., W.).—8.30 P.M. Card Specimen:—Mr. A. Frost: Pulsating Exophthalmos undergoing Spontaneous Cure. Papers:—Dr. C. H. Usher and Dr. G. Dean: Experimental Research on the Course of the Optic Fibres.—Mr. F. R. Cross: Congenital Hydrophthalmos, with microscopic preparations.—Mr. C. D. Marshall: Tension in Cases of Intraocular Tumour. Mr. S. Snell: Note on Electrolysis in Detachment of the Retina. The Annual General Meeting for the Election of Officers, &c., will be held at the close of the ordinary meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (29th).—LONDON POST-GRADUATE COURSE.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Mr. G. C. Wilkin: Aural Polypi.

TUESDAY (30th).—HOME FOR TREATMENT OF WOUNDS AND ULCERS BY OXYGEN (35, St. George's-sq.).—4 to 5.30 P.M. Demonstrations of Treatment, Apparatus, and Cases.

WEDNESDAY (1st).—NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3 P.M. Lecture by Dr. J. Taylor.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. McAdam Eccles: The Radical Cure of Hernia.

THURSDAY (2nd).—THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-st., W.C.).—4 P.M. Lecture by Dr. Barlow.

VICTORIA HOSPITAL FOR CHILDREN (Tite-street, S.W.).—4 P.M. Mr. H. Spicer: Some Forms of Keratitis in Children.

HOME FOR TREATMENT OF WOUNDS AND ULCERS BY OXYGEN (35, St. George's-sq.).—4 to 5.30 P.M. Demonstrations of Treatment, Apparatus, and Cases.

SATURDAY (4th).—HOME FOR TREATMENT OF WOUNDS AND ULCERS BY OXYGEN (35, St. George's-sq.).—4 to 5.30 P.M. Demonstrations of Treatment, Apparatus, and Cases.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET should be addressed "To the Manager."

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index for the current half-year is given in this week's issue, which completes the first volume of the year 1896. The practice of supplying loose copies of the Index has been discontinued, and it is now placed in the centre of the journal, whence it can easily be detached, and placed either at the beginning or at the end of the volume.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1896 will be ready shortly. Bound in cloth, gilt lettered, price 18*s*.

Cases for binding the half-year's numbers will also be ready in a few days. Cloth, gilt lettered, price 2*s*.

To be obtained on application to the Manager, accompanied by remittance.

"SAFETY PARAFFIN LAMPS."

MR. R. P. BEATTIE, of 16, Arcadia, Gt. Dover-street, Borough, S.E., sends us a description of a safety lamp of which he is the inventor. Its chief merit is simplicity of construction, while there is little doubt that it would burn ordinary illuminating oil quite safely. It answers to the description of a safe lamp as laid down by THE LANCET Commission. The wick is contained loosely in a wick chamber, except at the bottom where it passes tightly through a plug into the oil reservoir. Thus while the wick absorbs enough oil to feed the flame the wick chamber itself is always empty; leakage, therefore, through the wick tube of oil is prevented. The inventor states that he demonstrates the safety of this burner by throwing a burning lamp into a bed to convince his audience that no disaster can happen, and he adds that "many of the more nervous spectators make for the door and appear relieved when the experiment is over."

A very ingenious invention is the "Equipose Lamp" of Mr. A. H. Thompson, of 18, Garford-street, Poplar, E., which was referred to in our notice of safety lamps in THE LANCET of May 16th. We have since had an opportunity of inspecting the mechanism of this lamp. As its name indicates, the device upon which its safe working depends is a delicate universal joint, by means of which, no matter what position the body of the lamp may take, the reservoir and chimney are always vertical. When the lamp is upset it is immediately extinguished, since the ingress of air is at once stopped. Indeed, when required, the lamp may be conveniently extinguished in this way. It is obvious that this principle can be applied to various grades of lamps. Lamps of this safe construction are particularly well adapted for use in warehouses containing inflammable goods, when, colza oil being used, they give a brilliant light and for this purpose have, further, the advantage of being easily extinguished without unlocking the lantern.

M.D.—The medical man's first duty is undoubtedly towards his patient. As she would be so much better off if she took her parents into her confidence his advice to her to do so would be sound. But the moral point is one for her to decide, while it is his first business to attend to her physical condition.

"DOES ILLNESS HAVE ANY BENEFICIAL EFFECT ON ITS SUBJECT?"

To the Editors of THE LANCET.

SIRS,—I am afraid it is rather late in the day to answer Dr. Harry Campbell's request in THE LANCET of Sept. 28th, 1895. I well remember a case which somewhat applies. During an epidemic of enteric fever a man came to hospital with gonorrhœa; in three or four days he developed enteric fever, the gonorrhœa disappeared, and I well recollect some four weeks later, on the first day of normal temperature, my ward orderly (male nurse) saying, "His gonorrhœa has come back." The statement I was easily able to verify; there was no gonorrhœa during the active process of the enterics. I made an entry in the case book to that effect at the time. I regret that as the case occurred abroad some three years ago I have not access to the record of the case so that I could give accurate dates, &c., but the incident has not faded from my memory. I think such an occurrence is not very uncommon, though at present I can give no others.

I am, Sirs, yours truly,

Sheerness, June 17th, 1896. M. P. HOLT, Surgeon-Captain A.M.S.

M.D. Ed., &c.—Our correspondent had better apply to the School of Languages, 161, Fulham-road. Arabic is not a difficult language to learn to speak fairly fluently; to read or write it is a different thing

C. G. H.—The work done by the unqualified assistant, as described by our correspondent, falls within the proper scope which has been defined by the General Medical Council.

WRIGHT AND WRONG.

The *Jarrow Guardian* of June 19th publishes the following:—

"Mr. and Mrs. Wright and Family wish to thank the large circle of kind friends for their warmest sympathy, and are thankful to say their son George is progressing favourably under the skilful treatment of Dr. J——.

"June 18th, 1896. "9, Park-road, Jarrow."

We omit Dr. J——'s name, and recommend him to insist that the grateful patients shall do so also in their advertisement to their friends.

M.R.C.S.—The objections to such a scheme for payment are innumerable. Has our correspondent any idea of the difficulty the country rector experiences in collecting his tithe?

THE VACCINATION ACTS AND BOARDS OF GUARDIANS.

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Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET should be addressed "To the Manager."

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index for the current half-year is given in this week's issue, which completes the first volume of the year 1896. The practice of supplying loose copies of the Index has been discontinued, and it is now placed in the centre of the journal, whence it can easily be detached, and placed either at the beginning or at the end of the volume.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1896 will be ready shortly. Bound in cloth, gilt lettered, price 18*s.*

Cases for binding the half-year's numbers will also be ready in a few days. Cloth, gilt lettered, price 2*s.*

To be obtained on application to the Manager, accompanied by remittance.

"SAFETY PARAFFIN LAMPS."

MR. R. P. BEATTIE, of 16, Arcadia, Gt. Dover-street, Borough, S.E., sends us a description of a safety lamp of which he is the inventor. Its chief merit is simplicity of construction, while there is little doubt that it would burn ordinary illuminating oil quite safely. It answers to the description of a safe lamp as laid down by THE LANCET Commission. The wick is contained loosely in a wick chamber, except at the bottom where it passes tightly through a plug into the oil reservoir. Thus while the wick absorbs enough oil to feed the flame the wick chamber itself is always empty; leakage, therefore, through the wick tube of oil is prevented. The inventor states that he demonstrates the safety of this burner by throwing a burning lamp into a bed to convince his audience that no disaster can happen, and he adds that "many of the more nervous spectators make for the door and appear relieved when the experiment is over."

A very ingenious invention is the "Equipose Lamp" of Mr. A. H. Thompson, of 18, Garford-street, Poplar, E., which was referred to in our notice of safety lamps in THE LANCET of May 16th. We have since had an opportunity of inspecting the mechanism of this lamp. As its name indicates, the device upon which its safe working depends is a delicate universal joint, by means of which, no matter what position the body of the lamp may take, the reservoir and chimney are always vertical. When the lamp is upset it is immediately extinguished, since the ingress of air is at once stopped. Indeed, when required, the lamp may be conveniently extinguished in this way. It is obvious that this principle can be applied to various grades of lamps. Lamps of this safe construction are particularly well adapted for use in warehouses containing inflammable goods, when, colza oil being used, they give a brilliant light and for this purpose have, further, the advantage of being easily extinguished without unlocking the lantern.

M.D.—The medical man's first duty is undoubtedly towards his patient. As she would be so much better off if she took her parents into her confidence his advice to her to do so would be sound. But the moral point is one for her to decide, while it is his first business to attend to her physical condition.

"DOES ILLNESS HAVE ANY BENEFICIAL EFFECT ON ITS SUBJECT?"

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SIRS,—I am afraid it is rather late in the day to answer Dr. Harry Campbell's request in THE LANCET of Sept. 28th, 1895. I well remember a case which somewhat applies. During an epidemic of enteric fever a man came to hospital with gonorrhœa; in three or four days he developed enteric fever, the gonorrhœa disappeared, and I well recollect some four weeks later, on the first day of normal temperature, my ward orderly (male nurse) saying, "His gonorrhœa has come back." The statement I was easily able to verify; there was no gonorrhœa during the active process of the enterica. I made an entry in the case book to that effect at the time. I regret that as the case occurred abroad some three years ago I have not access to the record of the case so that I could give accurate dates, &c., but the incident has not faded from my memory. I think such an occurrence is not very uncommon, though at present I can give no others.

I am, Sirs, yours truly,

Sheerness, June 17th, 1895. M. P. HOLT, Surgeon-Captain A.M.S.

M.D. Ed., &c.—Our correspondent had better apply to the School of Languages, 161, Fulham-road. Arabic is not a difficult language to learn to speak fairly fluently; to read or write it is a different thing

C. G. H.—The work done by the unqualified assistant, as described by our correspondent, falls within the proper scope which has been defined by the General Medical Council.

WRIGHT AND WRONG.

The *Jarrow Guardian* of June 19th publishes the following:—

"Mr. and Mrs. Wright and Family wish to thank the large circle of kind friends for their warmest sympathy, and are thankful to say their son George is progressing favourably under the skilful treatment of Dr. J——.

"June 18th, 1896. "9, Park-road, Jarrow."

We omit Dr. J——'s name, and recommend him to insist that the grateful patients shall do so also in their advertisement to their friends.

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Communications, Letters, &c., have been received from—

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